ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

PAPER

Vol. XCVIII, No. 12 Thursday, March 22, 1934

Crown Zellerbach Corp. Answers Allegations

Denies Charges of the Federal Trade Commission that the Zellerbach Paper Co., National Paper Products Corp., Sanitary Products Corp., and Washington Pulp & Paper Corp. Competed Directly or Substantially with the Crown Willamette Co. or Any of Its Subsidiary Corporations in Violation of the Clayton Act

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 21, 1934—The Crown Zellerbach Corporation has filed its answer to the formal complaint regarding the acquisition of capital stock in a competing company in violation of Section 7 of the Clayton Act, issued against it by the Federal Trade Commission. Many of the allegations made by the Commission are denied in the answer. In part the corporation states:

Respondent denies that the said Zellerbach Paper Company, National Paper Products Corporation, Sanitary Products Corporation, Washington Pulp and Paper Corporation, or any of them, sold and or transported their products from the places of manufacture to purchasers located in states other than the state of manufacture and or in foreign countries in direct and or substantial competition with the other corporations or any of them, and particularly denies that the products of any of said corporations were sold as alleged in the complaint in direct and or substantial competition with the Crown Willamette Paper Company and or its subsidiary corporation named in the complaint, or either of them.

Respondent admits the allegations in paragraph two of said complaint, save and except as follows:

(a) Respondent denies that the preferred stock of Crown Willamette Paper Company had no voting rights on August 1, 1928, and alleges that both classes of preferred stock of said Crown Willamette Paper Company, on said date, had equal voting rights with the common stock of said corporation.

(b) Respondent denies that the value of the assets of said Crown Willamette Paper Company on August 1, 1928, was in excess of $70,000,000.

(c) Respondent denies that the sale of the paper products of the Crown Willamette Paper Company and its subsidiary corporation, including the sale of newsprint to jobbers and newspaper publishers, as alleged in the complaint, was in direct and or substantial competition with said Zellerbach Paper Company and or its said subsidiary corporations named in the complaint, or any of them.

(d) Referring to the alleged sale of 245,000 tons of newsprint by the Crown Willamette Paper Company in 1928, respondent alleges that during said year the said Crown Willamette Paper Company and its Canadian subsidiary, Pacific Mills, Ltd., sold a total of approximately 245,000 tons of newsprint of which approximately 192,000 tons were produced in the mills owned or operated by said Crown Willamette Paper Company and Pacific Mills, Ltd., the remainder thereof being purchased from the Washington Pulp and Paper Corporation.

Answering paragraph three of said complaint, respondent attaches hereto, and makes a part hereof, a copy of said March 30, 1928, agreement entered into between the representatives of the Zellerbach Corporation and the Crown Willamette Paper Company. Respondent admits the allegations of said paragraph three in reference to the terms of said agreement insofar as same are not inconsistent with the agreement itself a copy of which is attached hereto.

Memorandum of Agreement, entered into between Louis Bloch, president of Crown Willamette Paper Company, a corporation under the laws of the State of Delaware, first party, and I. Zellerbach, president of Zellerbach Corporation, a corporation under the laws of the State of Nevada, second party, and dated March 30th, 1928.

Witnesseth:

Whereas, Zellerbach Corporation owns the stock or stock control of various subsidiaries engaged in the manufacture and sale of paper and paper products of various kinds; and

Whereas, Crown Willamette Paper Company is engaged chiefly in the manufacture of newsprint paper, wrapping paper and wrapping tissue paper, but the subsidiaries of said Zellerbach Corporation and said Crown Willamette Paper Company have not competed and do not compete with each other in the sale of their various products; and

Whereas, the parties have agreed that it will be to the mutual advantage of their respective corporations and to the stockholders thereof that the common stock of Crown Willamette Paper Company should be acquired by Zellerbach Corporation;

Now, Therefore, it is agreed by and between the parties hereto on behalf of their respective corporations:

1. Zellerbach Corporation will increase its present authorized common stock of 1,200,000 shares to authorized common stock of 2,000,000 shares.

(*Continued on page* 34)

Pulp and Paper Labor Unions Confer in Montreal

Delegates Contend That Newsprint Manufacturers in Canada Should Accord Their Employees Same Benefits Secured to United States Workers Under NRA—Six Hour Day and 36 Hour Week, Without Pay Reduction, Demanded by Unions

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., March 19, 1934—Representatives of eight labor unions in the pulp and paper industry had a conference here during the past week and were in agreement on the contention that newsprint provinces in Canada whose market is in the United States should accord their employees the same benefits as those secured to similar employees in United States mills under the NRA.

The unions, representing the interests of 10,000 men employed in the newsprint mills in Canada and 6,000 newsprint employees in the United States, emerged from their private conference demanding a six hour day and a 36-hour week, without reduction of pay, for all employees. These specifications correspond to those in effect in the United States under the NRA. Afterward the union spokesmen went into conference with delegates from the Canadian companies which were represented, but no final agreement was reached. "Some progress" was reported by spokesmen of both sides, and deliberations will continue.

Unofficial quotation of the attitude taken by the companies' representatives was that "for the most part they are sympathetically inclined towards the requests of the union," but inasmuch as a number of Canadian newsprint firms were not represented at the conference, it was not possible to prophesy the outcome. Union leaders stated that they expected today to obtain at least a definite statement of the stand which the companies represented would take, while the companies which did not attend the conference would be approached on the subject in the near future.

While the principal object of the conference among the union men yesterday was the revision of wages and working hours, which exist under trade agreements that are drawn up annually from May 1, union spokesmen stated that a number of other matters of vital interest to the industry were also under consideration. Statements will be forthcoming regarding these points, they said.

The unions involved in the conference represent paper-makers, pulp and sulphite workers, electricians, machinists, steamfitters, firemen, stationary engineers and carpenters.

John Patterson, of Toronto, was chairman of the meeting between the unions and the employers, and represented the companies as official spokesman. John T. Burke, president, represented the pulp and sulphite workers; M. L. Huggins represented the paper-makers, and James Somerville was spokesman for the Canadian machinists.

Howard Smith Paper Mills Report

The consolidated report for 1933 for Howard Smith Paper Mills and subsidiary companies shows a material improvement both as regards earning power and financial position in comparison with that reported for 1932. Highlights of the report are a reduction in bank loans by $671,500 to $756,000; reduction in the outstanding funded debt by $192,900; an increase in working capital of $861,709, and a decline in deferred liabilities of $65,012.

Gross income for 1933 totalled $1,676,489. This compares with $1,377,554 in 1932. The appropriation for depreciation was increased to the extent of $335,366 over the previous year, and a reserve of $140,627 was set up to cover the company's products in the hands of subsidiary units. After making provision for all these charges, including bond interest, taxes, dividends on subsidiary stocks, etc., there remained a surplus for the year of $181,602, as against $127,168 in 1932.

Canada Paper Co.'s Earnings

In its 1933 financial statement Canada Paper Company, a subsidiary of Howard Smith Paper Mills, features an increase of $133,586 in working capital; a reduction of $119,000 in funded debt; a minor decrease in bank loans; and a loss of $10,999 after making provision for all charges, including dividends paid to minority stockholders of subsidiary companies.

Better operating conditions experienced by the company in 1933 are reflected in an increase in operating income from $184,097 in 1932 to $220,683 last year. The amount of net earnings available for bond interest and other charges of $22,172 was approximately $13,000 less than in 1932 owing to the fact that the discount on bonds redeemed was written off as an adjustment on fixed assets.

B. C. Pulp Mills at Full Capacity

Lawrence Killam, president of the British Columbia Pulp and Paper Company, Vancouver, reports that both the company's mills, at Woodfibre and Port Alice, are operating full time, with orders on hand to assume continuous operation for several months. The secretary of the company, Oscar Jorgenson, has gone to Japan, where he will size up the market and confer with his company's representatives in the Far East. Mr. Jorgenson was in Japan and China for a considerable period last year and made a thorough examination of trade conditions then, but the economic situation changes so rapidly in the Orient that, the British Columbia Pulp and Paper Company follows the practice of sending a major executive to that field at least once a year.

Advices received by the company's head office at Vancouver indicate that Japan will continue as an important consumer of Pacific coast pulp, but that plans are afoot to utilize the pulpwood forests of Manchukuo as soon as possible. There has been recurrent talk of the establishment of a large pulp mill in Manchukuo to act as a source of raw materials for Japanese newsprint mills, but Lawrence Killam, president of British Columbia Pulp, believes that by the time this venture is launched the market will have grown to such an extent that the new mill will merely take up the slack, without affecting shipments from this coast to any material extent.

Mr. Jorgenson plans to return to Vancouver early in April.

Quebec Pulp and Paper Corp.

The annual report of the Quebec Pulp and Paper Corporation shows results for the year very much on a par with those for 1932, total revenue amounting to $40,396 as compared with $42,472, and net loss, after writing off $11,790 to depletion, shown at $204,359 as against $192,256. The amount of the loss for the year under review was written back from contingency reserve, leaving profit and loss deficit the same as at the end of 1932; viz: $2,959,008.

The report showed that the mills of the company remained idle throughout the year.

Kimberly-Clark Corp. Classifies Hourly Wage Rates

Committee Working Out Schedules According to Occupation as Basis for Determining Future Compensation—Management Approves Increases Recommended—Average Occupational Rate Increases Slightly More Than Three Cents Per Hour

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 19, 1934—Classification of hourly rates of wages according to occupation is being carried on by the Kimberly-Clark Corporation, Neenah, Wis., as a basis for determining future compensation of all employees. A committee is working out the schedules and is making its reports to the mill council, made up of representatives chosen by the employees from each mill and representatives of the management.

About one-third of the classification work is completed. The classification is designed for the establishment of a model rate of pay for each class of occupations. New employees will then be advanced on a time basis to these model maximums. If any existing rates are above those maximums, they will not be reduced.

Since the beginning of the work last November, 257 hourly paid occupations filled by men have been departmentally classified, and 949 employees in occupations classified to date, excluding the Atlas wall paper printing plant at Appleton, Wis. These employees are in line to receive increases. The classification committee has recommended an increase in the maximum rate in about one out of every five occupations classified and thus far all recommendations have been approved by the management. Increases range from one to eight cents per hour, and the average occupational maximum rate increase is slightly more than three cents. The annual increase in payroll to date as the result of rate adjustment is approximately $8,000, and it is probable that the total will be $40,000 when the adjustment program is completed.

Foreclosure Proceedings Started Against M. & O.

Foreclosure proceedings have been started in the federal court at Minneapolis, Minn., by the Northwestern National Bank and Trust Company against the Minnesota and Ontario Paper Company and the International Lumber Company, enterprises of Edward W. Backus now in receivership. The bank acted as trustee of bond issues put out by both companies, and on filing foreclosure papers was instructed by Judge Joseph W. Molyneaux to start proceedings. The two companies and the Wirt Wilson Company, which brought the receivership action in 1931 against the paper and lumber companies were named defendants in the action.

The main bond issue was put out April 1, 1925 for $16,000,000. It was a first mortgage gold bond issue and was followed by supplemental issues. The bank alleges various defaults of principal and interest.

F. J. Sensenbrenner Advocates Production Control

Modification of the pulp and paper code to provide for "restriction on new facilities and control of production" was given by F. J. Sensenbrenner, president of the Kimberly-Clark Corporation, Neenah, Wis., at NRA hearings in Washington, D. C. Mr. Sensenbrenner is a member of the code authority for the pulp and paper industry.

Such a modification would not freeze or limit the industry to obsolete machinery because replacements of such machinery would be allowed, Mr. Sensenbrenner stated, but it would prevent further expansion of production. He stated there is now terrible overproduction in the industry and that it would require a 65 per cent increase in consumption to make use of the present paper and pulp plants' present capacity.

If the pulp and paper industry is to contribute to the NRA program, added Mr. Sensenbrenner, it must be protected against overproduction. He believes the principle of restriction as expressed in the Agricultural Adjustment Act must be extended to industry.

It was also set forth by Mr. Sensenbrenner in a general NRA conference on trade practices recently that "no planned economy is possible without control of productive facilities, with full consideration given to necessary exceptions for individual cases." The pulp and paper code has raised employment in the industry above any past figure, with 145,000 workers on payrolls at the close of 1933, although only 60 per cent of the industry's productive capacity was utilized.

Two other men have been appointed recently from Wisconsin on code authorities. W. K. Gerbrick, of the Central Paper Company, Menasha, Wis., was named to the gumming industry group, and J. D. Young, Neenah, Wis., on the waterproof paper group.

Paper Chemistry Institute Alterations

Alterations are being completed in the buildings of the Institute of Paper Chemistry at Lawrence College, Appleton, Wis., to provide additional office and laboratory space. The office formerly occupied by Dr. Otto Kress, technical director, has been converted into a general office. The former general office has been divided into quarters for Westbrook Steele, executive secretary, and Miss Harriet Brittain, secretary to Dr. Harry Lewis, dean. The room formerly used as a library in the laboratory building has been partitioned into offices for the code administrator, technical director and the director's secretary. The office of the treasurer has been moved from the second floor to give more library space. A conference room in the library building has been converted into an office also.

Pulpwood for Wausau Paper Mills

Approximately 5,000 cords of pulpwood was cut by the Brokaw Lumber Company in the Newwood section of Northern Wisconsin this winter for the Wausau Paper Mills Company, Brokaw, Wis. A record was set for the trucking of logs when 22 logs totalling 5,280 feet were brought eight miles through the woods in one loading.

Zeloid Products To Register Stock

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., March 20—The Zeloid Products, Inc., of this city, headed by Dr. Charles Hetzel of South Hadley, has obtained permission from the Federal Trade Commission to register its stock. The granting of the right to seek new capital has greatly encouraged the concern and its officials. Its patents are for the manufacture of paper of the cellophane type by a process said to be new and less costly than used heretofore. The concern will begin operations in the former No. 1 Riverside paper mill plant if the capital desired is raised.

Philadelphia Paper Market Shows Upward Trend

Local Distributors of Various Standard Grades of Paper Anticipate Livelier Trading Following Easter Holidays—Numerous Inquiries for Future Delivery Being Received—Offerings of Better Grades of Paper Stock Scarce—Augustine Mill Sold

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., March 19, 1934—While business activity has given signs of slackening, the trend remains upward, and the trade, locally, is looking ahead to brighter days with the passing of the Easter holidays. There are numerous inquiries coming into the mills for various papers manufactured within the Metropolitan area, indicating that buyers are shopping around before placing orders, and it is from these sources that manufacturers hope to receive results. Distributors also find inquiries for future deliveries growing, and orders are being placed by customers who have not been buyers for months. Converters report a fairly good demand for such commodities as books, cellophane products, boxes and containers, the latter being particularly in demand among clothing manufacturers and milliners.

In the paper stock industry, it is reported that there is none too plentiful available supply of the better grades, and these are holding their own. Hard and white soft shavings were relatively quiet, but packers held these grades with firmness and evinced no disposition to sell at reduced prices.

Fine Paper Men to Discuss Code

From the headquarters of the Paper Trade Association of Philadelphia in the Ledger Building comes the information that at a meeting of the Fine Paper Division held during the week, a program was recommended in that meeting that a series of a half dozen meetings of paper salesmen and employees of paper houses, having to do with code operation contacts with the customers of their respective houses, shall be held over a period of the next four or five months, the purpose of which is to contact the entire trade, giving a complete picture of details in their entirety, in order to arouse enthusiasm for the possibilities and responsibilities together with their co-operation in the enforcement of the code. It is probable that these meetings will be held in the evening or Saturday morning. The association is hopeful of enlisting the services of national leaders in trade affairs to participate in these meetings so that those in attendance will get first-hand information of the manufacturing and distributing phases of the paper business here. Details of this program are in the embryo state at this writing.

Price Reporting Plan Effective

William S. Wilcox, of Wilcox-Walter-Furlong Company, 17 South Sixth street, chairman of the Administrative Committee for the Philadelphia Trading Area, informs us with regard to the Price Reporting Plan, that today noon is the time set for all prices to be filed on bonds, ledgers, mimeograph, and book paper, coated and uncoated, and in conversation later this afternoon with Executive-Secretary Walker, of the Paper Trade Association, we learned that his office was completely "snowed under," sorting and tabulating the returned questionnaires.

Association Activities

A very representative group of the membership of the Philadelphia Paper and Cordage Association was in attendance at the monthly meeting held in the Rose Room of the Adelphia Hotel on Friday. After routine business had been discussed, the meeting was turned over to "Al" Nicholson, assisted by Frederick I. Brower, treasurer of the association, who in their inimitable way gave an exhibition of bewildering magic which kept the entire audience in guffaws of laughter.

The following were elected to membership: American Lace Paper Company, Milwaukee, represented by Lee H. Douglas; Ridgewood Paper Company, 924 Cherry street, represented by J. J. Glass; Wolf Brothers, largest manufacturers of all kinds of envelopes in Philadelphia, Twelfth and Callowhill streets, represented by Walter L. Wolf; E. K. Lay, mill representative in paper business for thirty years, Drexel Building, represented by E. K. Lay; Seaman Paper Company, 122 East Forty-second street, New York, represented by P. J. Smith; The National Fiberstock Envelope Company, 421 East Moyer street, represented by J. W. F. Blizzard.

There was unanimity of opinion among those present that today more than ever, association membership is not only necessary but vital, in that it keeps the members posted on the doings of the trade, a privilege not enjoyed by those outside the membership and who are therefore greatly handicapped.

At a meeting attended by every elected member to the Code Authority by the American Paper Mill Supplies Institute, Inc., there was read the resolution that was unanimously adopted at the recent national convention of the institute, the concluding paragraphs of which pointed to the unusual and severe hardships which the code would impose on both the employers of labor and labor in the industry, and urging that a stay be granted until a supplemental code of fair practice which would permit sales below cost and in some measure regulate the ruinous competitive methods precently employed, is adopted.

Augustine Mills Sold

Negotiations for the sale of the Jessup & Moore plant—known as the Augustine Mills, located on the Brandywine River, Wilmington—where fine book paper has been manufactured since 1845, have been consummated, and the new owners, John Jacobs, who formerly owned the Philadelphia Paper Manufacturing Company, which was purchased in 1926 by The Container Corporation of America, and Ward Smith, a former mill superintendent of the Container Corporation, it is reported are installing equipment for the manufacture of paper board and special products, and therefore will not be competitive with Jessup & Moore, who manufacture book paper. Jessup & Moore have not operated this mill for more than a year, having confined their activities to their mill located in Providence, Md., where they will continue in the book paper business, same as in the past.

News of the Trade

Announcement has just been made of the election of Reginald D. Perry as vice-president of the D. L. Ward Company, in charge of fine paper division; Thomas G. Ashworth, treasurer; Gilbert Spare, assistant treasurer, and Caleb Brinton, auditor.

Boston Paper Market Conditions Fairly Steady

Some Fine Paper Distributors Experience Greater Demand for Various Standard Grades, While Others Are Less Active—Kraft Wrapping Paper Continues in Fairly Satisfactory Request—Box Board Moving Rather Slowly, With Prices Firm

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 19, 1934—The paper market held fairly steady here last week. Some concerns handling fine paper reported that they found less activity, but felt more optimistic. With others there was a greater demand. At the office of a manufacturer, it was stated that business was not so spotty as it was, and was becoming "more uniform." A fair volume of orders was received for wrapping paper. In fancy papers, conditions have been improving generally since the first of the year. A manufacturing concern has been getting its "share of the business." A dealer says that March so far has been better than February, that February was better than January, and that the year to date has been better than the corresponding period in 1933. In box boards, business was fairly good, with prices holding firm.

Buying of paper stock was comparatively light during the week, indicating that the mills were very heavily stocked, according to reports in the trade. Prices declined on a number of grades. For No. 1 mixed papers manufacturers paid .20 @ .25, compared with a former range of .35 @ .40; for old newspapers .35 @ .40, against .50 @ .57½, and for corrugated boxes .35 @ .40, against .45 @ .55. Although the price for No. 1 kraft advanced recently to 1.25, the market has receded again to around 1.15 @ 1.20. The advance was said to be due to the fact that near-by truck delivery was held up by the storm, so that it was necessary to order in carload lots. An order was placed Thursday in New York at 1.15. Print manila has declined to .40 @ .45 from .45 @ .50. There has been some speculative buying in foreign bagging and foreign rags, but quotations are unchanged. New and old domestic rags remain at the same levels.

NRA Restrictions Discussed

In a report of the quarterly meeting of the New England Council at Hartford, Conn., March 16, at which it was learned "that many small industries are timidly suffering burdens under the NRA proportionately harder to bear than the restrictions placed upon the large manufacturers and this hits New England especially hard because of her many small concerns," Bernard Peterson writes to the *Boston Evening Transcript* the following in regard to what Charles Ray, president and general manager of the Rogers Paper Manufacturing Company, said:

In an informal discussion, Charles Ray of the Rogers Paper Manufacturing Company in South Manchester, Conn., brought to light another restriction measure which holds back some industries at a time when they are trying to extricate themselves from the depression. Some codes place a ban on expansion by stipulating that the individual factory or industry cannot replan or branch out so as to use its idle space or equipment in a new industry without a license from the code authority. He referred to a concern which is operating its plant only 35 per cent of capacity and while its market is shrinking it is planning as a measure of self-preservation to adopt some new lines of manufacture, but runs into this snag of a license. Some twenty-four or twenty-five branches of the industry will sit in judgment, as code authorities, to decide whether this factory shall be licensed to go into the new field of operation. This provision is to protect the market from new competition, and may be helpful in some instances, but on the whole holds the individual down to the field in which he happened to be when the depression struck him. He cannot plan for the future and cannot borrow capital with which to expand. "In other words," said Mr. Ray, "we have now a national prohibition. It is against initiative and expansion," although in many cases change or expansion would be the salvation of the individual concern and its employees. The ramifications of this prohibition are being studied.

Reduction of Working Hours Opposed

Winthrop L. Carter, president and general manager of the Nashua Gummed and Coated Paper Company, Nashua, N. H., is chairman of the Industrial Committee of the New England Council, which has filed with Gen. Hugh S. Johnson in Washington a statement registering "its serious objection to any statutory reduction of current hours of work in industry by act of Congress, or any administrative blanket reduction of hours thrugh the NRA." The committee requested formal permission of Gen. Johnson to present the statement in the public hearings which started February 27. The committee declared that no changes in working hours should be brought about except through conference with the authorized representatives of each industry.

News of the Trade

A luncheon meeting of the Fine Paper Division of the New England Paper Merchants' Association was held at the Boston Chamber of Commerce Thursday, with 22 present. The subject of discussion was Freight Equalization. The meeting was opened by President F. Bendel Tracy, of the association, and in the absence of Vice-President William N. Stetson, Jr., chairman of the division, John H. Brewer presided.

The Wrapping Paper Division of the New England Paper Merchants Association is to have a luncheon meeting at the Chamber of Commerce Tuesday. Discussion will be on the Price Reporting Plan.

A general sales meeting was held at the office of Knight, Allen & Clark, Inc., Saturday, with Mr. Allen presiding. A meeting was recently held at the office of this company, at which Mr. Birkhalter, of the Lee Hardware Company, Selina, Kansas, discussed the Nurex padding compound.

Summerfield Eney, Jr., of the Champion Coated Paper Company, Hamilton, Ohio, is to speak this evening on methods of printing in the lecture hall of the Boston Public Library, under the auspices of the Boston Club of Printing House Craftsmen, Inc. Mr. Eney will be with the Andrews Paper Company the rest of the week in the interests of the Champion Coated Paper Company.

Paul D. Poinier, of the Poinier-Carmer Company, box board dealers, and C. Lloyd Claff, of M. B. Claff & Sons, Inc., Randolph, Mass., paper box manufacturers, sailed for Miami, Fla., Wednesday. Mr. Poinier expects to be there about ten days. Mr. Claff will remain there for a while and return with his family, who have been in Florida for some time.

William Steck, of William Steck & Co., Inc., New York City, paper stock dealers, called on the trade last week.

Ontario Pulp and Paper Makers' Safety Convention

President A. T. Brown States Operation Costs for Accidents Show Slight Improvement, at Annual Meeting, Held in Toronto—Smooth Rock Falls Division of Abitibi Power and Paper Co. Awarded Class A Trophy for Accident Prevention

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., March 19, 1934—Addressing the annual meeting of the Ontario Pulp and Paper Makers' Safety Association at the King Edward Hotel on March 14, President A. T. Brown stated that operation costs for accidents had shown a slight improvement in all sub-divisions, except woods operations, and that the provisional assessment rate for 1934 was lower for pulp mills and board mills than the provisional rate set for 1933. In each case the rate for 1934 was the same as the actual rate for 1933, ranging from $1.50 per $100 payroll hours for pulp mills, to $3.50 for woods operations. "The weak spot in our armour," said Mr. Brown, "is the woods operations and your Board has given this matter very special attention all through the year. Plans are under way now for a special attack on woods accidents during 1934.

Old Problems Remain

"Our problem remains the problem of old. How to get management and labor thoroughly imbued with the idea that an accident is something which should not happen in a modern industrial plant. Accidents do not necessarily have to happen, and their prevention is simply the creation of an accident consciousness through the entire organization. The amount of accident suffering which happens to our industry in a year is tremendous, and the cost is one we can ill afford in these hard times. Business is harder to get and production costs have got to be lowered. Why should not the cost of accidents be reckoned as a production cost and lowered also? The initial blame lies with the management. Unless the men in charge of plants are themselves accident conscious there is not much hope, for the employees will follow the manager's lead. But if a manager does really figure that the cost of accidents is preventable cost, then wonderful things may happen."

Favorable Accident Prevention Record

According to the report presented by the secretary-engineer, D. B. Chant, the accident experience of member firms during 1933 compares favorably with that of 1932 and still more favorably when comparison is made with the average experience of the eight years 1926 to 1933 inclusive. Only one year—1931—produced results better than those of 1933 and that year was the best in the history of the Association. Total man hours and number of employees increased by 4.5 per cent and 1.4 per cent respectively over 1932, while the number of fatal accidents and the time lost from non-fatal accidents decreased nicely as against 1932, and still more substantially from the 8-year average. Frequency of non-fatal accidents is slightly higher for 1933 than for 1932 but is 18.1 per cent lower than the average rate. During 1933 two fatal accidents occurred in the plants of member firms as against three in 1932. This is a slight reduction of 33.3 per cent in the number of such cases and a decrease in fatal accident frequency of 36.4 per cent, which takes into account the increase in total man-hours worked.

A total of fifty fatal accidents took place in the eight year 1926 to 1933 inclusive—an average of 6.25 per year. The highest peak occurred in 1926 with seventeen fatalities and the two cases in 1933 mark the low point, both in number and frequency rate. The non-fatal accidents, involving loss of 11,494 days to December 31, numbered 648. Frequency rate was 33.7 cases per million man-hours and severity rate comes to .63 days lost per thousand hours. Altogether $129,973 was paid out in 1933 of which 80.9 per cent or $105,118 applies to mill accidents and 18.1 per cent, or $24,854 to woods operations cases.

Safety Trophies Presented

An interesting feature of the meeting was the announcement of the results of the accident prevention competition among the mills during 1933 and the presentation of the trophies to the winners. In Class A the winners were the Abitibi Power and Paper Company, Smooth Rock Falls division, with a total of 25 non-fatal accidents—324 days lost time, and a severity rating of .41 days per 1,000 hours worked; runners up, Spruce Falls Power and Paper Company, Kapuskasing, with 36 non-fatal accidents, 583.5 days lost time and severity of .44 days per 1,000 hours worked. Among Class B mills six plants completed the year with perfect records of no accidents involving lost time. The winner was Canadian Cellulose Company, Ltd., Cornwall, with a total of 149,748 hours; runners-up, Abitibi Power and Paper Company, Sturgeon Falls division, with a total of 62,958 hours. Other plants with perfect records were Abitibi Power and Paper Company, Fort William; Canadian Containers, Ltd., Windsor; St. Vincent de Paul Waste Bureau, Hamilton, and Manitoulin Pulp Company, Kagawong. The winner of the First Aid contest was the team representing Provincial Paper, Ltd., Georgetown, with a score of 97 points. Runners-up were the Spruce Falls Power and Paper Company, Kapuskasing.

L. F. Winchell New President

L. F. Winchell, general manager of Hinde & Dauch Paper Company, Toronto, was named president for 1933 and the following directors were appointed: J. H. Albert, J. R. Booth, Ltd.; B. F. Avery, Abitibi Power and Paper Company; Geo. Barber, Spruce Falls Power and Paper Company; W. S. Barber, Provincial Paper, Ltd.; John Ball, Beaverboard Fibre Company, Ltd.; A. T. Brown, E. Pullan, Ltd.; George Carruthers, Sr., Interlake Tissue Mills; D. L. McLeod, Ontario Paper Company; D. McLeod, Kenora Paper Mills, Ltd.; J. E. Patterson, Abitibi Power and Paper Company; George W. Pauline, Alliance Paper Mills, Ltd.; C. B. Thorne, Canadian International Paper Company, Ltd:; N. E. Wainwright, Don Valley Paper Company; A. T. Whealy, Corrugated Paper Box Company, Ltd.; J. S. Wilson, Dryden Paper Company; L. F. Winchell, Hinde & Dauch Paper Company, Ltd.; D. L. McLeod, of the Ontario Paper Company, Thorold, was elected vice-president.

The guest speaker was R. B. Morley, general manager Industrial Accident Prevention Association, who dealt with the subject "Some Danger Signals in Accident Prevention."

National City Paper in New Offices

The National City Paper Company has moved to more modern quarters at 460 West 34th street, New York. Foreign Paper Mills will also share these offices.

Demand for Paper Continues Restricted in Chicago

Livelier Trading Anticipated in Near Future When Paper Merchants' Stocks Become Depleted —Some Grades of Fine Paper Comparatively Active—Kraft Wrapping Paper Market Quiet—Paper Board Section Marks Time, With Prices Steady

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., March 19, 1934.—Reports from Chicago paper circles indicate that the paper market again tapered off slightly during the week, the tapering, however, not being considered of sufficient importance to cause worry. The most popular explanation of this situation is that merchants bought large quantities to insure the lower quantity prices now in effect and thus, being well stocked, are not yet back in the market.

The lull in demand extended throughout the entire market although prices remained uniformly firm, the number three sulphite bond grades showing a strengthening tendency, according to reports. The fine papers seemed to have a shade better report during the past six days with some grades comparatively active. Krafts were about the same, demand having tapered measurably following the active upturn of a month ago. The price situation continued satisfactory. Books and covers reported a lull in demand and a similar situation was prevalent in kindred lines. Paperboard markets also reported an "in-between" season. Ground woods still found the newsprint situation reflecting on them and though Chicago representatives seem pleased over improved conditions as supplied by the code of fair practice, they evidence continued concern over the unsettled newsprint problem. Waste papers remained about the same in a comparatively dull market.

Association Activities

The program of the Middle West Division of the Salesmen's Association of the Paper Industry to assist in the unification of trade customs between different lines and in cooperation with the code authority, has now extended to special committee sessions attended by group chairmen under the supervision of Harold Knott, general chairman appointed by R. C. Johnson. In addition to the regular weekly noon sessions at the Hamilton Club, the committee met one evening this week for further discussion of this important job. The new program and considerably effective work on the part of George K. Gibson, of Mosinee, membership chairman, has brought twenty new members into the active local association. A total of 42 sales executives were present at the Monday meeting on March 12—a fine attendance indicative of the interest shown in the entire program of the association.

The Paperboard Code Authority, one of the few recognized code authorities in Chicago, is functioning as required under the paper code. Statistical and other factual data is being collected and supplied to the National Recovery Administration. Offices of the Authority at 608 South Dearborn Street report that another meeting of the group will be held in the near future following sessions in New York in January, and Washington in February. Sidney Frohman, Hinde & Dauch, is the chairman of the Paperboard Code Authority; W. J. Alford, Jr., Continental Paper Company, vice-chairman, and H. S. Adler, secretary. W. W. Pickard is the representative of the National Recovery Administration on the Code Authority.

The next regular meeting of the Chicago Paper Association will be held on Tuesday evening, March 27, at the Blackstone Hotel, Chicago. Representatives of various trade papers will be invited to attend this session. One of the much appreciated courtesies of this association is a special effort to cooperate with trade paper representatives in the dispensing of news. The last meeting of the association, held earlier this month, featured reports on the New York meeting of the National Paper Trade Association given by James S. Danehy, Schwarz Paper Company; Leo S. Altholz, Inlander-Steindler Paper Company; and Henry Gieseke and Henry Thoms, of the Peerless Paper Company. Code discussions feature each of the meetings of the association at this time, Joe Pirie, Chicago trading area code authority, being a constant and welcome visitor at the sessions.

News of the Trade

In conjunction with the issuance of temporary net price list No. 6, the Swigart Paper Company has distributed a most timely bit of direct mail headed "Easter Makes the Springtime." The folder, printed on Linweave Text, Blue Green, offers some interesting information on Linweave Text relative to finishes, colors, weights, sizes, announcement sizes and envelope sizes. A strong appeal is made to buyers to not only capitalize on the spring revival of business but to utilize Linweave products to assist in making sales. Swigart's well known sample system is also given a good send-off.

A company well known to the paper industry, the Elgin Softener Corporation of Elgin, Ill., has recently announced the appointment of the L. A. Snider Engineering Service, 605 North Michigan Avenue, Chicago, as its representative in Northern Illinois and in Indiana. The representation, it is understood, also includes the servicing of the Elgin line. Elgin equipment includes industrial water softeners, continuous blow down and heat changer systems and boiler water chemical control equipment.

A general exodus from a part of the eleventh floor of the Conway Building to the twenty-first floor is scheduled for April 1, when the offices of the Tomahawk Paper Company; the Marathon Paper Company; the Flambeau Paper Company, and Menasha Products Company will be transferred to the new location. The move will give these well known concerns considerably more space inasmuch as the eleventh-floor offices now occupy 1,000 square feet, as compared to the 3,000 square feet awaiting them on the twenty-first floor. All but Menasha have been together in the eleventh floor suite for a number of years. Menasha, represented in this territory by J. V. Byrne, comes from the Wrigley Building. Jim Coy, recently promoted to a vice-presidency, is the Flambeau representative; Ray Russell, the Marathon executive in this territory, and Joe Cowhill, the representative of Tomahawk. The new suite will face along Washington street.

Testing Machines, Inc., Move

Testing Machines, Inc., exclusive sales agents for Schopper testing instruments, are now located in modern quarters at 460 West 34th street, New York. Complete display of all Schopper instruments will be available to those who are interested in testing paper.

Awards Are Announced for U.S.Government Paper

Joint Printing Committee After Conferences With NRA and the Public Printer Lets Contracts Thursday of Last Week—No Awards Are Made on Bids Which Do Not Comply with the Paper Code Nor to Bidders Who Did Not Furnish Paper in 1931-33.

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 16, 1934.—The unusual delay in announcing the awards for the supply of paper for the Government Printing Office, which in this instance is for three months instead of a year, was due to a number of causes, among which was the uniformity of the prices in very many instances, and another the greatly enhanced prices of paper over those for the supply for the year ended March 31. All of these factors resulted in conferences, two in number, between representatives of the NRA, the Public Printer and of the Joint Committee on Printing.

At the conclusion of the conference on Thursday, March 15, Senator Fletcher, chairman of the Joint Committee on Printing, made the following announcement:

Announcement by Committee

"The action taken by the committee today is not to be considered as a precedent for future awards. The awards have been made on the following basis:

"1. No consideration has been given to proposals declared irregular by the committee for noncompliance with provisions of law.

"2. No consideration has been given to bids for individual lots which, according to the NRA Administrator, do not comply with the provisions of the respective codes for the paper industry.

"3. No awards have been made for bidders whose designated mills have not furnished part of any related group of paper on annual contracts for either of the three years, 1931, 1932, and 1933. The only exceptions to this requirement are in the few lots upon which only one bid, or low bids, have been submitted in conformity with the NRA Code.

"4. In all cases where the bids were equal or tied, the awards made are based on the respective percentages of the total quantity of each related group of paper contracted for a designated mill during the last three years. The percentages were applied to the respective mills instead of the bidders to avoid possible excessive awards to any one mill represented by several bidders in the same group of paper."

Only Nine Awards to Lowest Bidders

Out of the entire number of awards only nine were made to the lowest bidders, for which there were various causes.

The items showing awards at prices more than one hundred per cent in advance of those for similar articles in 1933-34 were Lot 6, 140,000 pounds, Machine Finished Book Paper, Lot 7, 500,000 pounds, Machine Finished Book Paper, the price this year in both cases being 4.58 cents and last year 2.728 cents. This is also true of all the other items on Machine Finished Book Paper. Items showing an increase of 100 per cent or over include 50 per cent Machine Rag Finish; Rag Laid Antique Book was awarded at 13 cents and last year was 5.93 cents; 50 per cent Rag Double Coated Book was awarded at 13.13 cents as of 6.58 for last year; 25 per cent Rag Mimeograph was supplied last year at 4.11 cents, the lowest bid this year was 9.25 cents and the award was made on 10.81 cents. The award for 100 per cent Rag White Writing Paper was made at 26.67 cents as against 13.97 cents last year. All the bids on this item were uniform. 50 per cent Rag Lithograph Finish was awarded last year at 6.37 cents and this year at 13.96 cents; 75 per cent Rag Lithograph Finish Map shows an increase from 9.88 to 17.26 cents; 100 per cent Rag White Chart shows an increase from 12.46 to 19.30 cents. This was another item on which all bids were uniform. On 50 per cent Rag Manifold there was an increase from 11.48 to 19.00 cents; and on Colored Manifold from 10.86 to 19.64 cents. The Old Dominion Paper Company furnished 100 per cent Rag Manifold, White and Colored, at 27.19 cents last year; this year the awards were made to the same company at 47.11 cents.

An Increase of 100 Per Cent or More

An increase of more than 100 per cent is shown on all of the items covered by the general term of 25 per cent Rag Bond, White and Colored. No. 26 shows an increase from 6.58 to 14.43; No. 32, from 5.58 to 11.64; No. 40, from 5.38 to 11.64; and the same is true for lots 40 and 48, while on the 25 per cent Rag, Colored, the increase is from 8.58 to 15.40 cents. The increase on 25 per cent Rag Ledger is from 5.87 to 12.61 cents; on 50 per cent Rag Ledger No. 160 the increase is from 6.37 to 15.03 cents. This is also true of lots 161 and 162. 75 per cent Rag Ledger, Lots Nos. 168, 169, 170, 171, show an increase from 9.99 cents in 1933 to 20.85 cents this year. Last year the awards for 100 per cent Rag White Ledger were awarded at 12.82 cents, covering Lots Nos. 176, 177, 178, 179, 180 and 181. This year the award in each instance is made at a price of 27.64 cents.

The list of the successful bidders and the prices at which the awards were made follows:

Newsprint

No. 1—1,000,000 pounds Newsprint Paper; basis 24x36 inches, 64 pounds. Rolls: 24, 36 and 48 inches wide, 3-inch fibre cores, metal ends. National Pulp and Paper Company, Inc., New York. 2.0555 cents.

Machine-Finish Book

No. 3—200,000 pounds Machine-finish Book Paper; basis 25x38 inches, 70 pounds. Flat, 24x32, 28x38, and 31¼x45½. Dobler & Mudge, Baltimore, Md. 5.13 cents.

No. 4—200,000 pounds Machine-finish Book Paper; basis 25x38, 70 pounds. Flat, 24x38 and 38x48 inches. Dobler & Mudge. 5.13 cents.

No. 5—200,000 pounds, Machine-finish Book Paper, basis 25x38 inches, 70 pounds. Flat, 24x38 and 38x48 inches. Barton, Duer & Koch Paper Co., Washington. 5.13 cents.

No. 6—140,000 pounds Machine-finish Book Paper, basis 25x38 inches, 70 pounds. Rolls, 18, 21, 23 and 28½ inches, 3-inch iron cores. Whitaker Paper Company, Baltimore, Md. 4.58 cents.

No. 7—500,000 pounds Machine-finish Book Paper, basis 25x38 inches, 70 pounds. Rolls, 19 and 38 inches. 3-inch iron cores. Whitaker Paper Co. 4.58 cents.

No. 8—500,000 pounds Machine-finish Book Paper; basis, 25x38 inches, 70 pounds. Rolls, 19 and 38 inches, 3-inch iron cores. R. P. Andrews Paper Co., Washington, D. C. 4.58 cents.

No. 9—150,000 pounds Machine-finish Book Paper; basis, 25x38 inches, 70 pounds. Rolls, 24, 36 and 48 inches wide, 3-inch iron cores. R. P. Andrews Paper Co. 4.58 cents.

No. 10—80,000 pounds Machine-finish Book Paper; basis, 25x38 inches, 80 pounds. Rolls, 32 inches wide, 3-inch iron cores. Whitaker Paper Co. 4.63 cents.

No. 11—200,000 pounds Machine-finish Book Paper, basis 25x38 inches, 80 pounds. Flat, cut 24x38, 33¾x64, and 38x48 inches. R. P. Andrews Paper Co. 4.89 cents.

No. 12—150,000 pounds Machine-finish Book Paper; basis 25x38 inches, 100 pounds. Flat, cut 22¼x32¼, 24x38, 24¼x36¼, 32x42, 38x48 and 41x52 inches. Barton, Duer & Koch Paper Co. 4.65 cents.

No. 13—7,000 pounds Machine-finish Book Paper; basis 25x38 inches, 120 and 140 pounds. Flat, cut 29x41 and 38x48 inches. Barton, Duer & Koch Paper Co. 4.90 cents.

No. 14—7,000 pounds Colored Machine-finish Book Paper, blue and salmon; basis 25x38 inches, 70 and 100 pounds. Flat, cut 25x38 and 38x48 inches. Aetna Paper Co., Dayton, Ohio. (a) 70 pounds, 6.45 cents; (b) 100 pounds, 5.87 cents.

Machine-finish Book End-paper

No. 15—36,000 pounds Machine-finish Book End-paper for waste leaves. Flat, 25x38 inches, 160 pounds; grain to run the 38-inch way. Dobler & Mudge. 5.15 cents.

Offset Paper

No. 16—15,000 pounds Offset Book Paper; basis 25x38 inches, 120 pounds. Flat, cut 24x38 and 26x42 inches; grain as ordered. Aetna Paper Co. 5.75 cents.

Antique Book

No. 17—40,000 pounds Antique Book Paper; basis 25x38 inches, 100 pounds. Flat, cut 25x38 and 38x50 inches. Barton, Duer & Koch Paper Co. 4.90 cents.

Light Weight Machine-finish Book

No. 18—36,000 pounds Light Weight Machine-finish Book Paper; basis 25x38 inches, 60 pounds. Flat, cut 32x48 and 38x48 inches. Barton, Duer & Koch Paper Co. 5.61 cents.

50 Per Cent Rag Light Weight High Machine-finish Book

No. 19—36,000 pounds 50 Per Cent Rag Light Weight High Machine-finish Book Paper; basis 25x38 inches, 60 pounds. Flat, cut 32x48 and 38x48 inches. Dill & Collins, Inc., Philadelphia, Pa. 11.52 cents.

50 Per Cent Rag Machine-finish Book

No. 20—25,000 pounds 50 Per Cent Rag Machine-finish Book Paper; basis 25x38 inches, 80 pounds. Flat, cut 32x48 inches. R. P. Andrews Paper Co. 10.09 cents.

No. 21—60,000 pounds 50 Per Cent Rag Machine-finish Book Paper; basis 25x38 inches, 80 pounds. Flat, 38x48 inches. Reese & Reese (Inc.), Baltimore, Md. 10.09 cents.

No. 22—40,000 pounds 50 Per Cent Rag Machine-finish Book Paper; basis 25x38 inches, 80 and 90 pounds. Flat, cut any size, minimum width 24 inches, maximum width 42 inches. Perkins-Goodman Co., New York, N. Y. (a) 80 pounds, 10.09 cents; (b) 90 pounds, 9.60 cents.

75 Per Cent Rag Laid Antique Book

No. 23—20,000 pounds 75 Per Cent Rag Laid Antique Book Paper; basis 25x38 inches, 140 pounds. Cut 24x38 and 29x41 inches; laid marks to run 24-inch direction of sheet; grain and chain marks to run lengthwise of the sheet. R. P. Andrews Paper Co. 13.00 cents.

100 Per Cent Rag Machine-finish Book

No. 24—5,000 pounds 100 Per Cent Rag Machine-finish Book Paper; basis 25x38 inches, 90 pounds. Flat, cut 24x38 inches; grain to run lengthwise of the sheet. American Writing Paper Co., Inc., Holyoke, Mass. 14.94 cents.

No. 25—15,000 pounds 100 per cent Rag Machine-finish Book Paper; basis 25x38 inches, 140 pounds. Flat, cut 24x38 inches; grain to run lengthwise of the sheet. American Writing Paper Co., Inc. 14.94 cents.

Supercalendered Book

No. 26—10,000 pounds Supercalendered Book Paper; basis 25x38 inches, 90 pounds. Flat, cut 32x48 inches. Whitaker Paper Co. 5.15 cents.

No. 27—150,000 pounds Supercalendered Book Paper; basis 25x38 inches, 90 pounds. Flat, cut 31¼x45½ inches. R. P. Andrews Paper Co. 5.15 cents.

No. 28—150,000 pounds Supercalendered Book Paper; basis 25x38 inches, 90 pounds. Flat, cut 24x38 and 38x48 inches. R. P. Andrews Paper Co. 5.15 cents.

No. 29—200,000 pounds Supercalendered Book Paper; basis 25x38 inches, 90 pounds. Rolls, 38 inches wide; 3-inch iron cores. R. P. Andrews Paper Co. 4.63 cents.

No. 30—200,000 pounds Supercalendered Book Paper; basis 25x38 inches, 90 pounds. Rolls, 28½x38 inches wide, 3-inch iron cores. Whitaker Paper Co. 4.63 cents.

No. 31—10,000 pounds Supercalendered Book Paper; basis 25x38 inches, 90 and 100 pounds. Flat, cut any size, minimum width 24 inches, maximum 42 inches. R. P. Andrews Paper Co. 5.15 cents.

50 Per Cent Rag Supercalendered Book

No. 33—10,000 pounds Rag Supercalendered Book Paper; basis 25x38 inches, 80 and 90 pounds. Flat, cut 32x48 inches. Champion Coated Paper Co., Hamilton, Ohio. (a) 80 pounds, 10.83 cents; (b) 90 pounds, 10.34 cents.

Half-tone Paper

No. 34—15,000 pounds Half-tone Book Paper; basis 25x38 inches, 140 pounds, cut 24x38 and 38x48 inches. Champion Coated Paper Co. 4.90 cents.

Single-coated Book

No. 35—60,000 pounds Single-coated Book Paper; basis 25x38 inches, 140 pounds. Flat, cut 29x41, 38x48, and 41x52 inches; the grain to run lengthwise of the sheet. Champion Coated Paper Co. 6.00 cents.

Double-coated Book

No. 36—15,000 pounds Double-coated Book Paper; basis 25x38 inches, 140 and 160 pounds. Flat, cut 24x32, 24x38, and 38x48 inches; the grain to run lengthwise of the sheet. Perkins-Goodwin Co. 6.75 cents.

50 Per Cent Rag Double-coated Book

No. 37—10,000 pounds 50 per cent Rag Double-coated Book Paper; basis 25x38 inches, 140 and 160 pounds. Flat, cut 24x32, 24x38, 22x42, 38x48, and 41x52 inches; the grain to run lengthwise of the sheet. R. P. Andrews Paper Co. 13.13 cents.

50 Per Cent Rag Machine-finish Lithograph

No. 40—15,000 pounds 50 per cent Rag Machine-finish Lithograph Paper; basis 25x38 inches, 160 pounds. Flat, cut 26x38 inches; the grain to run lengthwise of the sheet. Aetna Paper Co. 9.99 cents.

Mimeograph Paper

No. 43—400,000 pounds White Mimeograph Paper, Nos. 40 and 48. Flat, cut 24½x30½, 24½x32, 24½x38, 26x42½, 28½x34½ inches; grain to run lengthwise of the

sheet. Cauthorne Paper Co., Inc., Richmond, Va. 5.15 cents.

No. 44—50,000 pounds Colored Mimeograph Paper, blue, buff, green, pink and yellow, No. 40. Flat, cut 24½x30½, 24½x32, 24½x38 and 26x42½; grain to run lengthwise of the sheet. Aetna Paper Co. 7.17 cents.

25 Per Cent Rag Mimeograph

No. 47—250,000 pounds 25 per cent Rag Mimeograph Paper, Nos. 40 and 48. Flat, cut 24½x30½, 24½x32, 24½x38, 26x42½, and 28½x34½ inches; grain to run lengthwise of the sheet. Aetna Paper Co. 10.81 cents.

Blue U. S. M. O. Safety Writing

No. 51—170,000 pounds Blue U. S. M. O. Safety Writing Paper, No. 32. Rolls, 11 and 22 inches wide, 24 inches diameter, 3-inch iron cores. R. P. Andrews Paper Co. 7.93 cents.

U. S. M. O. Writing, White and Blue

No. 52—6,000 pounds White and Blue U. S. M. O. Writing Paper, No. 32. Rolls 8½ inches wide, 24 inches in diameter, 3-inch iron cores. R. P. Andrews Paper Co., (c) White, 6.06 cents; (d) Blue, 7.03 cents.

Safety Writing, Colored

No. 53—3,000 pounds Colored Safety Writing Paper, blue, gray, green, pink, salmon and yellow, No. 40. Flat, cut 17x28, 21x32, and 22x34 inches. Barton,Duer & Koch Paper Co., 10.67 cents.

Sulphite Writing, White and Colored

No. 55—400,000 pounds White Sulphite Writing Paper, No. 32. Flat, cut 21x32, 22x34, 24x38, 26x34½,28x34, and 32x42. Cauthorne Paper Co., Inc., 5.57 cents.

No. 56—500,000 pounds White Sulphite Writing Paper, Nos. 40 and 48. Flat, cut 21x32, 22x34, 23x36, 24x38, 27x35, 28x34, and 32x42 inches. R. P. Andrews Paper Co., 5.57 cents.

No. 57—20,000 pounds White Sulphite Writing Paper, No. 26. Rolls, minimum width 16 inches, maximum 38 inches, 3-inch iron cores. Perkins-Goodwin Co., 6.33 cents.

No. 58—80,000 pounds White Sulphite Writing Paper, No. 32. Rolls, minimum width 16 inches; maximum width 38 inches; 3-inch iron cores. Perkins-Goodwin Co., 4.99 cents.

No. 59—80,000 pounds White Sulphite Writing Paper, Nos. 40 and 48. Rolls, minimum width 16 inches; maximum width 38 inches; 3-inch iron cores. Barton, Duer & Koch Paper Co., 4.99 cents.

No. 60—7,000 pounds Sulphite Writing Paper, Colored, No. 26. Flat, cut 21x32, 22x34, 24x38 and 28x34. Perkins-Goodwin Co., 7.88 cents.

No. 61—250,000 pounds Sulphite Writing Paper, Colored, Nos. 32 and 40. Flat, cut 21x32, 22x34, 24x38, 27x35, 28x34, 32x42. Aetna Paper Co. 6.54 cents.

No. 62—35,000 pounds Sulphite Writing Paper, Nos. 26, 32 and 40. Rolls, minimum width 17 inches, maximum width 38 inches, 3-inch iron cores. Perkins-Goodwin Co., (a) No. 26, 7.30 cents; (b) Nos. 32 and 40, 5.96 cents.

100 Per Cent Rag, White Writing

No. 63—2,500 pounds 100 per cent Rag White Writing Paper, vellum finish, Tub-sized, Air-dried, No. 56. Flat, 21x32 inches. Barton, Duer & Koch Paper Co., 26,67 cents.

Map Paper

No. 64—5,000 pounds Lithograph Finish Map Paper, Nos. 32 and 40. Flat, cut 24x38, 30x40, 32x48, 36x52, and 38x48 inches. R. P. Andrews Paper Co., 5.48 cents.

50 Per Cent Rag Lithograph-finish Map

No. 65—10,000 pounds 50 per cent Rag Lithograph-finish Map Paper, Tub-sized, Air-dried, Nos. 40, 48 and 56. Flat, cut any size, minimum width 25 inches, maximum 48 inches; grain to run lengthwise of the sheet. American Writing Paper Co. 13.96 cents.

75 Per Cent Rag Lithograph-finish Map

No. 66—60,000 pounds 75 per cent Rag Lithograph-finish Map Paper, Tub-sized, Air-dried, Nos. 32 and 40. Flat, cut any size, minimum width 24 inches, maximum width 48 inches; grain to run lengthwise of the sheet. Reese & Reese, Inc. 17.26 cents.

No. 67—30,000 pounds 75 per cent Rag Lithograph-finish Map Paper, Tub-sized, Air-dried, Nos. 48 and 56. Flat, any size, minimum width 30 inches, maximum width 48 inches; grain to run lengthwise of the sheet. Virginia Paper Co., Inc., Washington, D. C. 17.26 cents.

100 Per Cent Rag White Chart, Lithograph-finish

No. 69—60,000 pounds 100 per cent Rag White Chart Paper, Lithograph-finish, Tub-sized, Air-dried, No. 96. Flat, cut any size, minimum width 22 inches, maximum width 46 inches; grain to run lengthwise of the sheet. Old Dominion Paper Co., Norfolk. 19.30 cents.

Sulphite Manifold, White and Colored

No. 70—40,000 pounds White Sulphite Manifold Paper, Nos. 16 and 18. Flat, cut 21x32, 22x34, and 28x34 inches. Rejected.

No. 71—20,000 pounds Colored Sulphite Manifold Paper, No. 18. Flat, cut 21x32, 22x34, and 28x34. Rejected.

No. 72—5,000 pounds Colored Sulphite Manifold Paper, No. 18. Rolls, minimum 17, maximum 38 inches, 3-inch iron cores. Rejected.

50 Per Cent Rag Manifold, White and Colored

No. 73—25,000 pounds 50 per cent Rag White Manifold Paper, No. 14. Flat, cut 21x32, 22x34, 24x38 and 28x34 inches. Barton, Duer & Koch Paper Co., 19.00 cents.

No. 74—100,000 pounds 50 per cent Rag White Manifold Paper, No. 18. Flat, cut 21x32, 22x34, 24x38, and 28x34 inches. Corril A. Hubbard, Kalamazoo, Mich., 16.00 cents.

No. 75—10,000 pounds 50 per cent Rag Manifold Paper, Colored, No. 14. Flat, cut 21x32, 22x34, and 28x34 inches. Barton, Duer & Koch Paper Co., 22.79 cents.

No. 76—20,000 pounds 50 per cent Rag Manifold Paper, Colored, No. 18¾. Flat, cut 21x32, 22x34, 24x38 and 28x34 inches. Perkins-Goodwin Co., 19.64 cents.

100 Per Cent Rag Manifold, White and Colored

No. 78—5,000 pounds 100 per cent Rag White Manifold Paper, Tub-sized, Air-dried, No. 14. Flat, cut 17x28, 19x24, 21x32, and 22x34 inches. Old Dominion Paper Co., 47.11 cents.

No. 79—5,000 pounds 100 per cent Rag White Manifold Paper, Tub-sized, Air-dried, No. 18. Flat, cut 17x28, 19x24, 21x32 and 22x34 inches. Old Dominion Paper Co., 36.63 cents.

No. 80—2,000 pounds 100 per cent Rag Manifold Paper, Tub-sized, Air-dried, Colored, No. 14. Flat, cut 17x28, 19x24, 21x32, 22x34 and 26x32 inches. All Bids Rejected.

No. 81—2,000 pounds 100 per cent Rag Manifold Paper, Tub-sized, Air-dried, Colored, No. 18. Flat, cut 17x28, 21x32, 22x34, and 24x38 inches. All Bids Rejected.

50 Per Cent Rag, White Glazed Manifold

No. 83—25,000 pounds 50 per cent Rag White Glazed

Manifold Paper, No. 16. Flat, cut 19x24 and 21x32 inches. Corril A. Hubbard, 19.50 cents.

Sulphite Bond, White and Colored

No. 101—5,000 pounds White Sulphite Bond Paper, No. 26. Flat, cut any size, minimum 17, maximum 32 inches. R. P. Andrews Paper Co., 7.51 cents.

No. 102—250,000 pounds White Sulphite Bond Paper, Nos. 32 and 40. Flat, cut any size, minimum 17, maximum 32 inches. R. P. Andrews Paper Co., 6.06 cents.

No. 103—5,000 pounds White Sulphite Bond Paper, No. 48. Flat, cut any size, minimum 17, maximum 32 inches. R. P. Andrews Paper Co., 6.06 cents.

No. 104—2,000 pounds Sulphite Bond Paper, Colored, Nos. 32 and 40. Flat, cut any size, minimum 17, maximum 32 inches. R. P. Andrews Paper Co., 7.03 cents.

No. 105—2,000 pounds Sulphite Bond Paper, No. 48. Flat, cut any size, minimum 17, maximum 32 inches. R. P. Andrews Paper Co., 7.03 cents.

25 Per Cent Rag Bond, White and Colored

No. 108—40,000 pounds 25 per cent Rag White Bond Paper, Tub-sized, Air-dried, No. 26. Flat, cut 21x32, 23x36, 24x38, and 28x34 inches. Aetna Paper Co., 14.43 cents.

No. 109—40,000 pounds 25 per cent Rag White Bond Paper, Tub-sized, Air-dried, No. 32. Flat, cut 22¾x31½ inches. Aetna Paper Co., 11.64 cents.

No. 110—150,000 pounds 25 per cent Rag White Bond Paper, Tub-sized, Air-dried, No. 32. Flat, cut any size, minimum 15, maximum 32 inches. Aetna Paper Co., 11.64 cents.

No. 111—200,000 pounds 25 per cent Rag White Bond Paper, Tub-sized, Air-dried, No. 40. Flat, cut any size, minimum 17, maximum 32 inches. Aetna Paper Co., 11.64 cents.

No. 112—200,000 pounds 25 per cent Rag White Bond Paper, Tub-sized, Air-dried, No. 40. Flat, cut any size, minimum 17, maximum 32 inches. Aetna Paper Co., 11.64 cents.

No. 113—200,000 pounds 25 per cent Rag White Bond Paper, Tub-sized, Air-dried, No. 48. Flat, cut any size, minimum 17, maximum 32 inches. Aetna Paper Co., 11.64 cents.

No. 114—20,000 pounds 25 per cent Rag Bond Paper, Tub-sized, Air-dried, Colored, No. 26. Flat, cut any size, minimum 17, maximum 32 inches. Champion Coated Paper Co., Hamilton, Ohio, 15.40 cents.

No. 115—80,000 pounds 25 per cent Rag Bond Paper, Tub-sized, Air-dried, Colored, No. 32. Flat, cut any size, minimum 17, maximum 32 inches. Champion Coated Paper Co., 12.61 cents.

No. 116—80,000 pounds 25 per cent Rag Bond Paper, Tub-sized, Air-dried, No. 40. Flat, cut any size, minimum 17, maximum 32 inches. Champion Coated Paper Co., 12.61 cents.

No. 117—60,000 pounds 25 per cent Rag Bond Paper, Tub-sized, Air-dried, No. 48¾. Flat, cut any size, minimum 17, maximum 32 inches. Champion Coated Paper Co., 12.61 cents.

50 Per Cent Rag Bond, White and Colored

No. 120—30,000 pounds 50 per cent Rag White Bond Paper, Tub-sized, Air-dried, No. 26. Flat, cut 21x32, 23x36, 24x38 and 28x34 inches. Perkins-Goodwin Co., 17,42 cents.

No. 121—150,000 pounds 50 per cent Rag White Bond Paper, Tub-sized, Air-dried, Nos. 32 and 40. Flat, cut any size, minimum 17, maximum 32 inches. Aetna Paper Co., 14.06 cents.

No. 122—30,000 pounds 50 per cent Rag White Bond Paper, Tub-sized, Air-dried, No. 48. Flat, cut any size, minimum 17, maximum 32 inches. Perkins-Goodwin Co., 14.06 cents.

No. 123—5,000 pounds 50 per cent Colored Rag Bond Paper, Tub-sized, Air-dried, Nos. 26, 32 and 40. Flat, cut any size, minimum 17, maximum 32 inches. Old Dominion Paper Co., (b) No. 26, 18.39 cents; (c) Nos.. 32 and 40, 15.03 cents.

75 Per Cent Rag White Bond

No. 125—2,500 pounds 75 per cent Rag White Bond Paper, Tub-sized, Air-dried, No. 26. Cut any size, minimum 17, maximum 32 inches. Whiting Paper Co., Philadelphia, Pa., 24.57 cents.

No. 126—2,500 pounds 75 per cent Rag White Bond Paper, Tub-sized, Air-dried, Nos. 32, 40 and 48¾. Flat, cut any size, minimum 17, maximum 32 inches. Whiting Paper Co., 19.88 cents.

100 Per Cent Rag White Bond

No. 128—3,000 pounds 100 per cent Rag White Bond Paper, Tub-sized, Air-dried, No. 48. Flat, cut any size, minimum 17, maximum 32 inches. Barton, Duer & Koch Paper Co., 26.67 cents.

No. 129—2,000 pounds 100 per cent Rag White Bond Paper, Tub-sized, Air-dried, No. 48. Flat, any size, minimum 17, maximum 32 inches. Barton, Duer & Koch Paper Co., 26.67 cents.

100 Per Cent Rag Declaration Bond

No. 140—3,000 pounds 100 per cent Rag Declaration Bond Paper, Tub-sized, Air-dried, Nos. 32 and 40. Flat, cut 17x22 and 22x25½ inches. Whiting Paper Co., 26.67 cents.

100 Per Cent Rag White Parchment Deed

No. 141—2,000 pounds Rag White Parchment Deed Paper, Tub-sized, Air-dried, No. 64. Flat, cut 33x34 inches. Barton Duer & Koch Paper Co., 26.67 cents.

Sulphite Ledger, White and Colored

No. 151—20,000 pounds White Sulphite Ledger Paper, Nos. 56 and 64. Flat, cut any size, minimum 17, maximum 32 inches. Aetna Paper Co., 6.54 cents.

No. 152—10,000 pounds White Sulphite Ledger Paper, No. 80. Flat, cut any size, minimum 17, maximum 32 inches. R. P. Andrews Paper Co., 6.54 cents.

No. 153—4,000 pounds Sulphite Ledger Paper, Colored, No. 80. Flat, 21x32½ inches. R. P. Andrews Paper Co., 7.51 cents.

25 Per Cent Rag Ledger, White and Colored

No. 154—5,000 pounds 25 per cent Rag White Ledger Paper, Tub-sized, Air-dried, Nos. 48 and 56. Flat, cut 20x28, 21x32, 24x38, 28x29 and 28x34 inches. Coy, Hunt & Co., New York, N. Y., 12.61 cents.

No. 155—5,000 pounds 25 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 64¾. Flat, cut 21x32 and 23x36 inches. Coy, Hunt & Co., 12.61 cents.

No. 156—5,000 pounds 25 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 72. Flat, cut 20x28, 21x32, 24x38 and 28x34 inches. Coy, Hunt & Co., 12.61 cents.

No. 157—3,000 pounds 25 per cent Rag Ledger Paper, Tub-sized, Air-dried, Colored, Nos. 56, 64 and 72. Flat, cut 21x32, 23x36, 24x38 and 28x34 inches. Coy, Hunt & Co., 13.58 cents.

50 Per Cent Rag Ledger, White and Colored

No. 160—30,000 pounds 50 per cent Rag White Ledger Paper, Tub-sized, Air-dried, Nos. 48 and 56. Flat, cut

18½x36, 18½x40¼, 20x28, 21x32, 24x38, 28x29 and 28x 34 inches. Perkins-Goodwin Co., 15.03 cents.

No. 161—15,000 pounds 50 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 64. Flat, cut 21x32 and 23x36 inches. Coy, Hunt & Co., 15.03 cents.

No. 162—30,000 pounds 50 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 72 and 80. Flat, cut 20x28, 21x32, 24x38 and 28x34 inches. Barton, Duer & Koch Paper Co., 15.03 cents.

No. 163—10,000 pounds 50 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 88. Flat, cut 21x32½ inches. Coy, Hunt & Co., 15.03 cents.

No. 164—25,000 pounds 50 per cent Rag Ledger Paper, Tub-sized, Air-dried, Colored, Nos. 56, 64 and 72. Flat, cut 18½x36, 18½x40¼, 19x24, 21x32, 23x36 and 28x34 inches. Old Dominion Paper Co., 16.00 cents.

No. 165—25,000 pounds 50 per cent Rag Ledger Paper, Tub-sized, Air-dried, Colored, No. 88. Flat, cut 21x32½ inches. Old Dominion Paper Co., 16.00 cents.

75 Per Cent Rag Ledger, White and Colored

No. 168—10,000 pounds 75 per cent Rag White Ledger Paper, Tub-sized, Air-dried, Nos. 48 and 56. Flat, cut 21x32, 24x38, 28x29 and 28x34 inches. Virginia Paper Co., Inc., 20.85 cents.

No. 169—5,000 pounds 75 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 64. Flat, cut 21x32, 23x 36, 24x38 and 28x34 inches. R. P. Andrews Paper Co., 20.85 cents.

No. 170—10,000 pounds 75 per cent Rag White Ledger Paper, Tub-sized, Air-dried, Nos. 72 and 80. Flat, cut 20x 28, 21x32, 24x38 and 28x34 inches. Barton, Duer & Koch Paper Co., 20.85 cents.

No. 171—5,000 pounds 75 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 88. Flat, cut 21x32½ inches. Coy, Hunt & Co., 20.85 cents.

No. 172—6,000 pounds 75 per cent Rag Ledger Paper, Tub-sized, Air-dried, Colored, Nos. 56, 64 and 72. Flat, cut 21x32, 23x36, 24x38 and 28x34 inches. Barton, Duer & Koch Paper Co., 21.82 cents.

No. 173—8,000 pounds 75 per cent Rag Ledger Paper, Tub-sized, Air-dried, Colored, No. 88. Flat, cut 21x32½ inches. R. P. Andrews Paper Co., 21.82 cents.

100 Per Cent Rag White Ledger

No. 176—5,000 pounds 100 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 48. Flat, cut 21x32, 22¾x31½, 23x36, 24x38 and 28x34 inches. Carew Manufacturing Co., S. Hadley Falls, Mass., 27.64 cents.

No. 177—10,000 pounds 100 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 56. Flat cut 20x28, 21x32, 23x36, 24x38 and 28x34 inches. Carew Manufacturing Co., 27.64 cents.

No. 178—5,000 pounds 100 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 64. Flat, cut 18½x42, 21x32, 23x36 and 28x34 inches. Carew Manufacturing Co., 27.64 cents.

No. 179—5,000 pounds 100 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 72. Flat, cut 20x28, 21x 32, 24x38 and 28x34 inches. Barton, Duer & Koch Paper Co., 27.64 cents.

No. 180—4,000 pounds 100 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 80. Flat, cut 21x32½ and 21x42. Coy, Hunt & Co., 27.64 cents.

No. 181—5,000 pounds 100 per cent Rag White Ledger Paper, Tub-sized, Air-dried, No. 88. Flat, cut 20½x24¾, 21x32½, 22¾x31½ inches. Carew Manufacturing Co., 27.64 cents.

Sulphite Index, White and Colored

No. 184—40,000 pounds White Sulphite Index, Single-ply; basis 22½x28½, 182 and 230 pounds. Flat, cut 21x 32½, 22½x28½ and 24½x32½ inches. Aetna Paper Co., 5.57 cents.

No. 185—3,000 pounds White Sulphite Index, Single-ply; basis 22½x28½ inches, 280 and 362 pounds. Flat, cut 21x32½ and 22½x28½ inches. Aetna Paper Co., 5.82 cents.

No. 186—4,000 pounds Sulphite Index, Single-ply, Colored; basis 22½x28½ inches, 182 and 230 pounds. Flat, cut 21x32½ and 22½x28½ inches. Aetna Paper Co., 6.30 cents.

No. 187—2,000 pounds Sulphite Index, Single-ply, Colored; basis 22½x28½ inches, 280 and 362 pounds. Flat, cut 21x32½ and 22½x28½ inches. Aetna Paper Co., 6.30 cents.

50 Per Cent Rag Index, White and Colored

No. 190—80,000 pounds 50 per cent Rag White Index, Single-ply, Tub-sized; basis 22½x28½ inches, 182 and 230 pounds. Flat, cut 21x32½ and 22½x28½ inches. Walker, Goulard Plehn Co., Inc., New York, N. Y., 13.96 cents.

No. 191—5,000 pounds 50 per cent Rag White Index, Single-ply, Tub-sized; basis 22½x28½ inches, 280 and 362 pounds. Flat, cut 21x32½ and 22½x28½ inches. Aetna Paper Co., 13.96 cents.

No. 192—25,000 pounds 50 per cent Rag Index, Single-ply, Tub-sized, Colored; basis 22½x28½ inches, 182 and 230 pounds. Flat, cut 21½x32½ and 22½x28½ inches. Marquette Paper Co., Chicago, 14.89 cents.

No. 193—10,000 pounds 50 per cent Rag Index, Single-ply, Tub-sized, Colored; basis 22½x28½ inches; 280 and 362 pounds. Flat, cut 21x32½ and 22½x28½ inches. Aetna Paper Co., 14.89 cents.

100 Per Cent Rag White Ledger

No. 196—50,000 pounds 100 per cent Rag White Index, Single-ply, Tub-sized, Air-dried; basis 22½x28½ inches, 206 pounds. Flat, cut 20½x30½ and 21x32½ inches. Carew Manufacturing Co., 24.21 cents.

White Tissue

No. 197—1,000 pounds White Tissue Paper. Flat, 21x32 inches, 18 pounds. L. Hyman & Sons, New York, N. Y., 11.11 cents.

Facing Stereo Tissue

No. 198—500 pounds Facing Stereo Tissue Paper; basis 19x24 inches, 9 pounds. Rolls 24 inches wide, 3-inch iron cores. All bids rejected.

Coated Cover, Colored

No. 201—15,000 pounds Colored Coated Cover Paper. Flat 26½x41 inches. Perkins-Goodwin Co., 7.00 cents.

25 Per Cent Rag Machine-Finish Cover, Colored

No. 203—8,000 pounds 25 per cent Rag Colored Antique Machine-finish, Cover Paper. Flat, 20x25 inches, 96 pounds. R. P. Andrews Paper Co., 10.76 cents.

No. 204—35,000 pounds 25 per cent Rag Colored Antique Smooth Machine-finish Cover Paper; basis 20x26, 100 pounds. Flat, cut 20x25 and 33x46 inches. Dill & Collins, Inc., 10.76 cents.

50 Per Cent Rag Laid Cover, Colored

No. 205—10,000 pounds 50 per cent Rag Colored Laid Cover Paper; basis 20x26 inches, 130 pounds. Flat, cut 20x25 and 26½x41 inches. Reading Paper Mills, Reading, Pa., 13.09 cents.

ITS TUBE DOESN'T FLAKE OFF

IMPORTANT PROTECTION FOR YOUR VALUABLE BATCHES PROVIDED BY GOODYEAR

STYLE M MACHINE HOSE

Specified by the G.T.M. and Supplied with or without Integral Rubber Nozzle

ONE of the most successful developments which Goodyear has perfected for paper mill service is *Goodyear Style M Paper Machine Hose.*

It is built with a specially compounded VULCANIZED TUBE which doesn't flake off. It thus affords *valuable protection to your batches* at the same time that it gives extra-long trouble-free service.

Ply construction is extra-strong, too, for withstanding pressure. Body and cover are also built extra-strong to endure rough usage, such as being run over by trucks or dragged across concrete. Flexible and easy to handle. Supplied with or without integral rubber nozzle.

The G. T. M.—Goodyear Technical Man—recommends Style M Paper Machine Hose out of a long practical experience with paper mill needs. Why not talk over your hose and belt requirements with him? Write to Goodyear, Akron, Ohio, or Los Angeles, California, or call your Goodyear Mechanical Rubber Goods Distributor.

BELTS • MOLDED GOODS
HOSE • PACKING
MADE BY THE MAKERS OF GOODYEAR TIRES

THE GREATEST NAME IN RUBBER

GOODYEAR

50 Per Cent Rag Antique Cover, Colored

No. 206—15,000 pounds 50 per cent Rag Colored Antique Cover Paper. Flat, cut 20x25 inches, 96 pounds. American Writing Paper Co., Inc., 12.56 cents.

Wood Manila

No. 209—35,000 pounds Wood Manila Paper; basis 24x36 inches, 60 to 120 pounds. Flat, cut 21x32, 22½x34½ and 25x38 inches. R. P. Andrews Paper Co., 3.25 cents; 5 per cent additional for 60 pounds.

No. 210—50,000 pounds Wood Manila Paper; basis 24x36 inches, 60 to 120 pounds. Rolls, 18 and 21 inches, 3-inch iron cores. R. P. Andrews Paper Co., 3.00 cents; 5 per cent additional for 60 pounds.

Sulphite Manila

No. 211—10,000 pounds Sulphite Manila Paper; basis 24x36 inches, 100 to 160 pounds. Flat, cut any size, in wrapped bundles. Barton, Duer & Koch Paper Co., 4.41 cents.

Rope Manila

No. 213—20,000 pounds Rope Manila Paper; basis 24x36 inches, 120, 140 and 160 pounds. Rolls, 18 and 48 inches wide, 3-inch cores. Reese & Reese, Inc., 10.50 cents.

No. 214—15,000 pounds Rope Manila Paper; basis 24x36 inches, 280 pounds. Rolls, 48 inches, 3-inch iron cores. Reese & Reese, Inc., 10.00 cents.

Drumhead Manila

No. 215—5,000 pounds Drumhead Manila Paper; basis 24x36 inches, 280 pounds. Flat, cut 26x42 inches. Reese & Reese, Inc., 14.00 cents.

No. 2 Kraft

No. 217—60,000 pounds No. 2 Kraft Wrapping Paper; basis 24x36 inches, 60 to 160 pounds. Flat, cut any size, in wrapped bundles. Whitaker Paper Co., (d) 4.53 cents. (d) 60 pounds, for bundles less than 100 pounds each add $0.25 per 100 pounds. (e) 4.28 cents. (e) Heavier than 60 pounds, for bundles less than 100 pounds each add $0.25 per 100 pounds.

No. 218—100,000 pounds No. 2 Kraft Wrapping Paper; basis 24x36 inches, 60 to 160 pounds. Cut any size, folded. Whitaker Paper Co., (d) 4.77 cents; (e) 4.53 cents.

No. 219—80,000 pounds No. 2 Kraft Wrapping Paper; basis 24x36 inches, 60 to 160 pounds. Rolls, 9, 11½, 24, 36, 39 and 48 inches, on wooden plugs. Whitaker Paper Co., (d) 4.28 cents; (e) 4.04 cents.

No. 1 Kraft

No. 220—3,000 pounds No. 1 Kraft Paper; basis 24x36 inches, 120 and 160 pounds. R. P. Andrews Paper Co., 5.27 cents. See letter accompanying bid.

White Paraffin Paper

No. 251—1,000 pounds White Paraffin Paper. Flat, cut 24x38 inches, 32 pounds. R. P. Andrews Paper Co., 11.75 cents.

White Gummed

No. 252—50,000 sheets White Gummed Paper. Flat, cut 17x22 inches, 40 pounds. Virginia Paper Co., Inc., $4.33.

Blotting, White and Colored

No. 254—4,000 pounds White Blotting Paper. Flat, cut 19x24 inches, 160 pounds. R. P. Andrews Paper Co., 8.00 cents.

No. 255—2,000 pounds White Blotting Paper, Colored. Flat, cut 19x24 inches, 160 pounds. R. P. Andrews Paper Co., 8.00 cents.

25 Per Cent Rag Blotting, White and Colored

No. 256—10,000 pounds 25 per cent Rag White Blotting Paper. Flat, cut 19x24 inches, 160 pounds. R. P. Andrews Paper Co., 9.50 cents.

No. 257—2,000 pounds 25 per cent Rag Blotting Paper, Colored. Flat, cut 19x24 inches, 160 pounds. R. P. Andrews Paper Co., 10.00 cents.

Desk Blotting, Colored

No. 258—10,000 pounds Desk Blotting Paper, blue and buff. Flat, cut 19x24 inches, 200 pounds. R. P. Andrews Paper Co., 8.00 cents.

No. 259—20,000 pounds Desk Blotting Paper, moss green. Flat, cut 19x24 inches, 200 pounds. R. P. Andrews Paper Co., 8.00 cents.

White Stereotype Molding

No. 260—1,000 pounds White Stereotype Molding Paper for Paper Process; basis 19x24 inches, 120 pounds. Rolls, 24 inches wide, 3-inch iron cores. All bids rejected.

Red Stereotype Molding

No. 261—1,000 pounds Red Stereotype Molding Paper for paper process; basis 19x24 inches, 80 pounds. Rolls, 24 inches wide, 3-inch iron cores. All bids rejected.

Oiled Manila Tympan

No. 262—10,000 pounds Oiled Manila Tympan Paper; basis 24x36 inches, 200 pounds. Rolls, 38 and 48 inches wide. 10-inch diameter. Whitaker Paper Co., 6.125 cents.

Plate Wiping for Embossing Presses

No. 263—1,000 pounds Plate-wiping Paper for Embossing Presses; basis 24x36 inches, 100 pounds. Rolls, 24 inches wide, 3-inch iron cores. Barton, Duer & Koch Paper Co., 5.39 cents.

Back Linings for Case-Making Machines

No. 264—2,000 pounds Back-Lining Paper for Case-Making Machines; basis 24x36 inches, 180 pounds. Rolls, 24 inches diameter, 37 inches wide, 3-inch iron cores. Mathers-Lamm Paper Co., Washington, D. C., 3.82 cents.

High-Finish Red Sulphite

No. 265—5,000 pounds High-Finish Red Sulphite Paper. Flat, cut 24x36 inches, 320 and 400 pounds, in wrapped bundles of 250 sheets. Reese & Reese, Inc., 6.12 cents.

High-Finish Sulphite Manila Tag

No. 271—30,000 pounds High-Finish Sulphite Manila Tag Board; basis 24x36 inches, 160 to 280 pounds. Flat, cut any size, minimum 24, maximum 38 inches wide. Barton, Duer & Koch Paper Co., 4.60 cents.

Calendered Tag, Manila and Colored

No. 276—300,000 pounds Manila Calendered Tag Board; basis 22½x28½ inches, 148 pounds. Barton, Duer & Koch Paper Co., 7.00 cents.

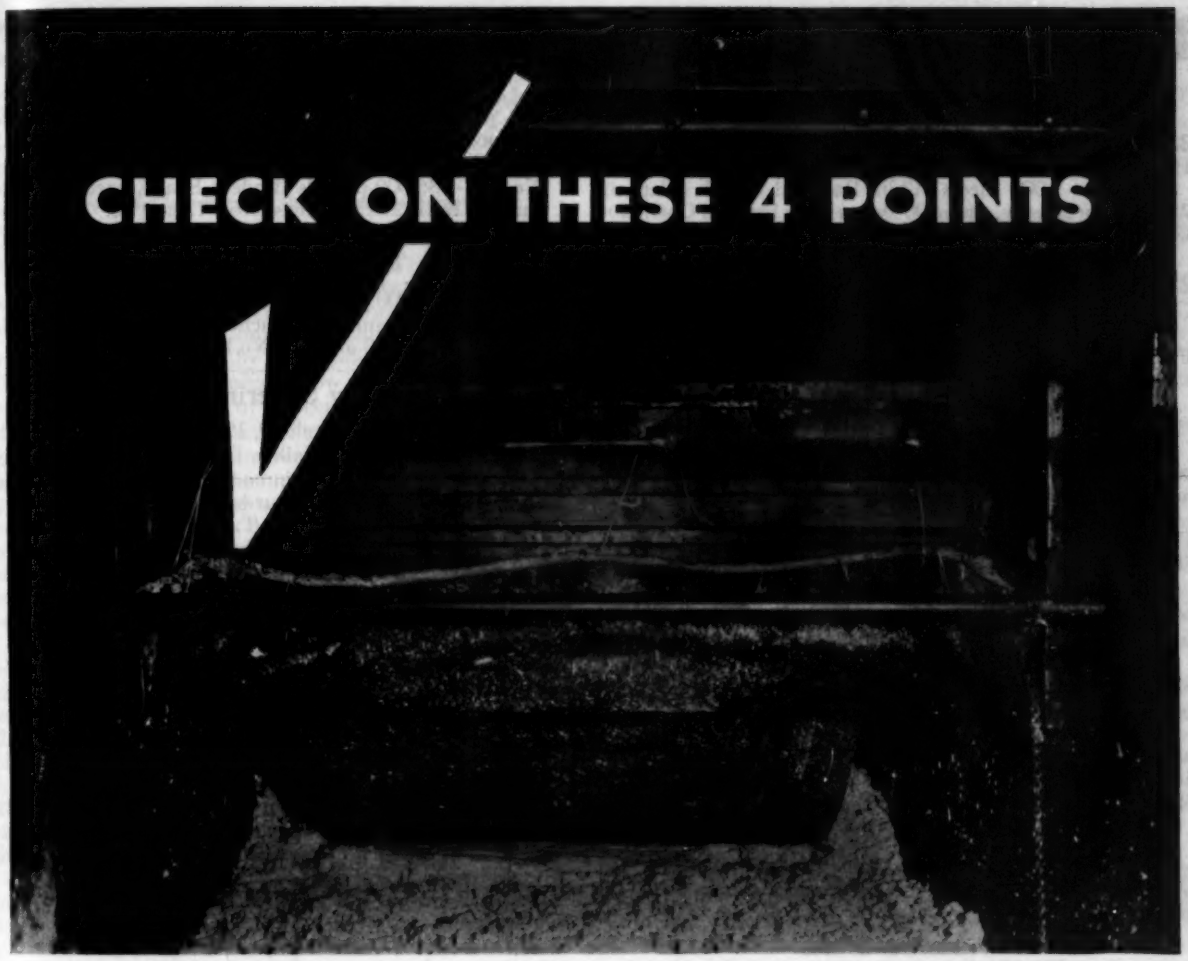
No. 277—30,000 pounds Manila Calendered Tag Board, Colored; basis 22½x28½ inches, 148 pounds. Rolls, 23¼ and 26½ inches wide. Barton, Duer & Koch Paper Co., 7.75 cents.

Jute Tag

No. 280—15,000 pounds Jute Tag Board; basis 22½x28½ inches, 200 and 280 pounds. Flat, cut 22½x28½ inches, in wrapped bundles of 500 sheets each. Reese & Reese, Inc., 6.79 cents.

Manila Board

No. 281—15,000 pounds Manila Cardboard; basis 22½x



WHEN you hang a pulp wheel in your mill you want to be assured of its performance. Check these points:

- ✓ uniformly superior quality pulp with less frequent burring.
- ✓ high tonnage production.
- ✓ long span of life.
- ✓ operation at low wheel cost per ton of pulp.

Performance records of Aloxite Brand Pulp Grinding Wheels unquestionably prove their high efficiency on all these counts.

ALOXITE
BRAND
PULP GRINDING WHEELS

THE CARBORUNDUM COMPANY, NIAGARA FALLS, N. Y.
Canadian Carborundum Co., Ltd., Niagara Falls, Ont.
(Carborundum and Aloxite are registered trade marks of The Carborundum Company)

28½ inches, 400 pounds. Flat, cut 17x28, 21x32 and 22½x28½ inches. Butler Paper Corp., Chicago, 3.88 cents.

Railroad Board, White and Colored

No. 302—15,000 sheets White Railroad Board. Flat, cut 22x38 inches, 4-ply, 100-sheet packages. Champion Coated Paper Co., $29.34.

No. 303—5,000 sheets White Railroad Board. Flat, cut 22x38 inches, 8-ply, each 100 sheets fully banded. Champion Coated Paper Co., $43.31.

No. 304—5,000 sheets White Railroad Board. Flat, cut 22x28 inches, 14-ply, each 50 sheets fully banded. Champion Coated Paper Co., $67.12.

No. 305—15,000 sheets Railroad Board, Colored. Flat, cut 22x28 inches, 4-ply, each 100 sheets fully banded. Champion Coated Paper Co., $35.21.

Wood Bristol, Colored

No. 306—15,000 pounds Colored Wood Bristol Board; basis 22½x28½ inches, 150 pounds. Rolls, 20 and 22 inches, 6-inch iron cores. Perkins-Goodwin Co., 4.85 cents.

No. 307—35,000 pounds Colored Wood Bristol Board. Flat, cut 21x31 inches, 204 pounds, in wrapped bundles of 500 sheets. R. P. Andrews Paper Co., 4.85 cents.

No. 308—60,000 pounds Colored Wood Bristol Board; basis 22½x28½ inches, 200 pounds. Rolls, 20 inches wide, 6-inch iron cores. Perkins-Goodwin Co., 4.85 cents.

No. 309—60,000 pounds Colored Wood Bristol Board; basis 22½x28½ inches, 200 pounds. Rolls, 20 inches wide, 6-inch iron cores. Whitaker Paper Co., 4.85 cents.

No. 310—15,000 pounds Colored Wood Bristol Board; basis 22½x28½ inches, 200 pounds. Flat, cut 12x18 and 14½x17½ inches, grain to run lengthwise of the sheet. R. P. Andrews Paper Co., 4.85 cents.

U. S. Postal Card Bristol

No. 325—2,000,000 pounds; basis 22½x28½ inches, 188 pounds. Rolls, 38 inches wide. Whitaker Paper Co., 3.90 cents.

Pressboard, Colored

No. 351—5,000 sheets Red Pressboard. Flat, cut 24x32 inches, thickness .0140 inch. Walker Goulard Plehn Co., Inc., $5.93.

No. 352—5,000 sheets Gray Pressboard. Flat, cut 30x36 inches, thickness 0.300 inches. Walker Goulard Plehn Co., Inc., $18.88.

News Board

No. 360—1,000 pounds News Board. Flat, cut 26x38 inches, No. 100. Virginia Paper Co., Inc., 2.39 cents.

Chip Board

No. 361—180,000 pounds Chip Board; basis 26x38 inches, No. 50. Flat, cut 21½x32½, 24½x38, 26x38, 28½x34½ and 32½x42½ inches. Virginia Paper Co., Inc., 1.774 cents.

Marble Grained Lined Board

No. 362—10,000 pounds Marble Grained Lined Board; basis 26x38 inches, No. 50. Flat, cut 22x32 inches. Whitaker Paper Co., 4.41 cents.

Straw Board

No. 363—10,000 pounds Straw Board. Flat, cut 26x38 inches, No. 50. No bids.

Lined Chip Board

No. 364—5,000 pounds Lined Chip Board. Flat, cut 26x38 inches, No. 50. Virginia Paper Co., Inc., 2.267 cents.

Lined Box Board

No. 365—10,000 pounds Lined Box Board, lined one side; basis 26x38 inches, No. 40. Flat, cut 24½x34 inches. Virginia Paper Co., Inc., 2.267 cents.

Binders Board, No. 1 Quality

No. 366—160,000 pounds Binders Board, hard rolled, No. 1 quality. Flat, to trim 25x30 inches, Nos. 16, 18, 20, 25, 30 and 40. Mead Sales Co., New York, 3.3875 cents.

No. 367—36,000 pounds Binders Board, hard rolled, No. 1 quality; Basis 25x30 inches, Nos. 12 and 20. Flat, to trim 34x40 inches. Mead Sales Co., 3.3875 cents.

Binders Board, Best Quality

No. 368—36,000 pounds Binders Board, hard rolled, best quality. Flat, to trim 20x30 inches, and 22x38 inches, Nos. 18, 20, 25, 30, 35, 40 and 45. No bids.

Miami Valley Superintendents Meet

MIDDLETON, Ohio, March 19, 1934—The regular monthly meeting of the Miami Valley Division of the American Pulp and Paper Mill Superintendents Association was held at the Manchester Hotel, Saturday, March 17.

National President Herbert T. Randall was the guest of honor, and an exception was made in the attendance of ladies who joined the members of the division at the dinner. Then paper and allied industries were well represented by the men who have charge of the mechanical equipments of many mills.

Francis D. Bowman, advertising manager of the Carborundum Company, was the principal speaker on this occasion, and told the entertaining story of the radio broadcast which he presents every Saturday night over the Columbia network, and of which the famous Carborundum band is a feature.

The presence of the President, Mr. Randall, was a matter of interest to all Miami Valleyans as he was long associated with them at the Champion Coated Paper Company's mills in Hamilton.

Robert L. Eminger, Miamisburg, national secretary, was in attendance.

Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 21, 1934—Barton, Duer & Koch Paper Company will furnish the Government Printing Office with 20,000 pounds of yellow calendered tag board in 23¼ inch rolls at 7.75 cents per pound, and 100,000 pounds of manila calendered tag board in 23¼ and 26½ inch rolls at 7 cents per pound, bids for which were received on March 7.

The same firm will also furnish 168,000 pounds of 24½ x 32 No. 40 white mimeograph paper at 4.9 cents per pound, bids for which were received on February 28, and 74,200 pounds of 22 x 34 and 28 x 34, 25 per cent rag yellow bond paper at 12.61 cents per pound, bids for which were received on February 23.

Brown Co. Announces New Kraft

The Brown Company, with plant at Berlin, N. H., main office at Portland, Me., and Boston office at 80 Federal street, has announced an improved Romal grade of kraft, which contains Solka and has an improved color, being of a golden brown shade.

A neatly designed map, showing the distribution of printing papers made by the Brown Company, has been placed on the wall of the Boston office of the company. The sixty cities, extending from coast to coast, from which the papers are distributed, are blocked in pink, and the names of the houses representing the company are printed on yellow arrows, pointing towards the names of the cities.

Dyes and Colloid Discussed by Lake States TAPPI

The Lake States Section of the Technical Association of the Pulp and Paper Industry met on March 13 at the Conway Hotel, Appleton, Wis., Chairman R. J. LeRoux presiding.

Colloid Chemistry in the Paper Industry

Two papers were presented. The first was by Dr. B. W. Rowland of the Institute of Paper Chemistry on "The Place of Colloid Chemistry in the Paper Industry." According to our present knowledge, colloid chemistry is the study of matter within certain limits of subdivision, and of the surface plenomena caused by this subdivision. The range of colloid size is from somewhat below microscopic resolving power to the upper limits of molecular dimensions.

Dr. Rowland emphasized the importance of surface activity and pointed out numerous striking examples of the enormous forces working at interfaces. In the manufacture of pulp and paper we are confronted with problems concerning surface activity in penetration of chips, washing pulp, hydration, sizing, and coloring. The colloid chemist is faced with a seemingly hopeless task in studying these complicated systems, but is making progress, though slow, towards their solution.

Dyes in Paper Making

The second paper was given by E. L. Puffer of Heller & Merz Company, Chicago, on "Dyes in Paper Making." Chlorophyll is probably one of the most important substances on the earth, since it is necessary for the storing of the sun's energy in the form of plants. Our coal was formed from plant material manufactured by chlorophyll in the past, and from coal we get our present array of aniline dyestuffs.

Mr. Puffer discussed the various kinds of dyestuffs with regard to their classification, application, tinctorial power, brightness, etc. He pointed out the proper application of each class and stressed the importance of pH control in obtaining satisfactory results. An open discussion followed the papers.

It was announced that the program for next month would be a symposium on papermaking, given by local men.

About one hundred twenty were present. Among these were:

P. J. Abel, Stickle Steam Specialty Company, Indianapolis, Ind.; F. L. Aldrich, Interlake Pulp and Paper Company, Appleton, Wis.

A. E. Bachman, Kimberly-Clark Corporation; Fred W. Bentzen, Kimberly-Clark Corporation; Andrew Bixler, Institute of Paper Chemistry; Paul Boronow, Valley Iron Works, Appleton, Wis.; Dr. B. L. Browning, Karl Buff and C. W. Cassell, Institute of Paper Chemistry; W. E. Clark.

Roy Davis, Consolidated Water Power and Paper Company; David DeZurik, DeZurik Shower Company, Sartell, Minn.; R. H. Doughty, Forest Products Laboratory.

Wm. A. Fannon, Fannon Trading Company; William Fischer, Fox River Paper Company; James Foote, Fox River Paper Company.

A. T. Gardner, Combined Locks Paper Company; M. G. Gerhorz, Thilmany Pulp and Paper Company; John Gerhauser, L. A. Gilbertson and John H. Graff, Institute of Paper Chemistry.

John A. Hanson, Badger Paper Mills; A. J. Hayes, Nekoosa Edwards Paper Company; Walter Holzer and Alfred Howells, Institute of Paper Chemistry.

E. C. Jacobi, Standard Oil Company, Green Bay, Wis.; Charles Johnson, Institute of Paper Chemistry; Earl W. Johnson, Northern Paper Mills.

Ralph H. Kehl, Kimberly-Clark Corporation; M. J. Ketter, Hoberg Paper & Fiber Co., Green Bay, Wis.; Otto Kress, Institute of Paper Chemistry; Frank Kreiling, Institute of Paper Chemistry; Stephen Kukolich, Neenah Paper Company.

E. M. Leavitt, Thilmany Pulp and Paper Company; E. F. Lenz, Hoberg Pulp and Fiber Company, Green Bay, Wis.; R. J. LeRoux, Interlake Pulp and Paper Company; Bernard F. Lueck, Bergstrom Paper Company; Lawrence Lynd, R. T. Vanderbilt Company, New York City.

John Maes, Rhinelander Paper Company; Charles Maxwell, G. H. McGregor and James McIntyre, Institute of Paper Chemistry; G. C. McNaughton, Forest Products Laboratory.

R. A. Nugent, Nekoosa Edwards Paper Company, Port Edwards, Wis.

Henry E. Obermanns, Institute of Paper Chemistry; W. B. Osgood, Globe Steel Tubes Company.

David F. Petersen, Bergstrom Paper Company; Kenneth E. Pinkerton, Fox River Paper Company; E. L. Puffer, Heller & Merz Corporation.

A. W. Redlin, Kimberly-Clark Corporation; C. Riggles, Kimberly-Clark Corporation; Charles Roth, Institute of Paper Chemistry; B. W. Rowland, Institute of Paper Chemistry.

C. E. Saecker, Appleton Machine Company; H. F. Schenk, Wm. A. Hardy & Sons Company; Clarence Seborg, Forest Products Laboratory; Wm. Sharpless, Watab Paper Company, Sartell, Minn.; A. K. Smith, Institute of Paper Chemistry; J. A. Staidl, Thilmany Paper and Pulp Company; W. D. Stephenson, Institute of Paper Chemistry.

Frank D. Turner.

Kenneth Ulm, Institute of Paper Chemistry.

Roy Vanderberg, Philadelphia Felt Company; R. J. Vechinski, Combined Locks Paper Company; Ervin J. Vickman, Hoberg Paper and Fiber Company; Edward H. Voigtman, Kimberly-Clark Corporation.

Jos. V. Wedgwood, Manhattan Rubber Manufacturing Company, S. D. Wells, Combined Locks Paper Company; Earl R. Williams, Neenah Paper Company; H. E. Wright, Kimberly-Clark Corporation.

T. E. Xistris, Valley Iron Works Company.

J. W. Youngchild, Nekoosa Edwards Paper Company; Ronald L. Youngson, Menasha Products Company; M. A. Youtz, Northern Paper Mills; B. A. Yule, F. C. Huyck & Sons.

R. J. Zaumeyer, Kimberly-Clark Corporation; Jos. P. Zelimke, Wisconsin Tissue Mills; Joe Krysiak, Wisconsin Tissue Mills.

Hellstrom Sulphite Pulping System Installed

A new sulphite cooking system has been installed in a mill at Campbellton, N. B. and is said to be giving good results.

The system has been patented by G. L. M. Hellstrom, president of Paper Equipment Ltd., Montreal. With this system the inventor claims that it is possible to reduce steam consumption considerably. In the Campbellton mill the steam consumption is now less than 3,400 pounds per ton of bleached pulp produced.

It is also possible to produce 5 or 6 tons more pulp per day from each digester at practically no extra cost, other than that of wood. This means an increased income from the company's five digesters of about $250,000 per year running at peak load.

Open Price Plans*

I have been requested by the General Code Authority for the Wholesaling Trade to discuss the matter of open prices on behalf of wholesalers generally. We are counsel to the Code Authority for the Paper Distributing Trade and are therefore in a position to report upon the views of the members of that great wholesale trade on this matter.

The wholesaling function is one peculiarly designed as a check and balance between the manufacturer and retailer commercial and industrial user. The wholesaler is able on the one hand to determine when merchandising or consuming stocks exceed demand as projected for a reasonable period, and on the other hand when manufacturing output exceeds such demand. The wholesaler too must determine whether the prices of manufacturers need to be lessened in order to meet the demand and to encourage it. The wholesaler is a comparatively narrow conduit which if kept clear should coordinate for the economic benefit of the country the activities of the manufacturer and his outlets. We believe that in standard classes of merchandise the open price plan is admirably adapted for this clarification of the wholesaling function.

Open Price Plan Not Novel

The open price plan is not novel. The United States Supreme Court some years ago approved in principle and largely in fact in the Cement and Maple Flooring cases the putting into effect of similar plans. In those cases the Court held that open price plans promoted fair and intelligent competition as against blind and unintelligent competition and that they were a legitimate activity of trade associations. It is true that the plans there approved were principally for the filing of prices in completed transactions much the same as reporting of stock exchange prices, but it was recognized in those cases that a stability of price resulted and the Court did not find that result undesirable. The waiting period contained in most open price plans under codes is vitally necessary in our opinion to their successful operation and constitute a constructive development based upon the views of the Supreme Court in order to prevent unfair use of filed prices. When an open price plan is used one expects one's competitors to believe that the filed schedule represents an actual price list and unless notice is given of intention to change the schedule the open price plan may be disastrously misleading to competitors and to the buying public. The period of notice should be adapted to permitting the filed price to become generally known in the trade and should be for no longer period of time than is required for such purpose. It has been suggested that prices be filed after the first quotation or sale and be kept good for a specified period thereafter. Experience has shown that once the damage is done in breaking down the price structure and inducing the buyer to believe that the price quoted is a generally established price, a great part of the sound effect of the open price plan has been lost and other sellers will meet the disastrously low price regardless. It is expressly to guard against such uneconomic price warfare that the open price plan is designed.

Bases for the Open Price Plan

It seems to us that the arguments which originally swayed the National Recovery Administration in granting to industry the open price plan are being forgotten although in our opinion their truth has made itself felt in a great recovery of business activity. The bases for the open price plan are essentially first that it will tend to stabilize prices not on the maximum but on the minimum basis, the tendency being to approach the lowest price of manufacture and the lowest cost of distribution as represented by the lowest filed schedule. Second, buyers and sellers will be informed as to available prices and will be able to buy and sell in the light of complete information. Third, that unscrupulous buyers will be unable to play off sellers against each other with resultant price destruction.

The first proposition although self-evident has been considerably refuted of late. It has been claimed that due to the waiting period in open price plans price fixing and intimidation of competitors was rampant in industry. My own experience among business men has indicated that that is not so. For one reason because prices during the depression fell so low and were so far below cost of manufacture and distribution that great strides must still be made before the price structure in most industries is rehabilitated. As Mr. Mead of the pulp and paper manufacturing industry testified, the open price plan in the pulp and paper industry is still on the basis of red ink. We are certain that that is true in a great many industries, first because they do not yet know their cost on the one hand, and on the other hand because the National Recovery Administration policy has not encouraged thus far the setting up of a reasonably fair return to industry even though it might for the moment have to be on an arbitrary basis.

It is not generally recognized that the waiting period in open price plans is designed not only to give notice of a rise or fall in price to competitors but also to buyers. This would and should give an opportunity to buyers to convince sellers that prices should not be raised through exercising not only their economic power but their power of persuasion in order to keep prices reasonable.

Illegal Fixing of Prices Was Novel

We have been informed by those of considerable experience both in and out of the Government, concerned with the supervision of open price plans that where the open price plans are abused and used as price fixing mediums, and those instances are comparatively infrequent bearing in mind the novelty of the whole program and of these plans, the illegal activity is being conducted outside the open price plan and outside the Code Authority organization. Illegal fixing of prices is no novel situation for the Government. The National Industrial Recovery Act itself provides that it shall not be used to discriminate against or oppress small enterprises and that it shall not be used to promote monopolies or monopolistic practices. The Anti-trust laws are suspended insofar as the provisions of codes are concerned only if those provisions are exactly complied with. We believe that if the provisions are used as price fixing mediums the Anti-trust laws remain in full force and effect as to those acts. No law may be used for illegal purposes with impunity.

Anti-Trust Laws and NRA Protect Public

The Anti-trust Laws and the National Industrial Recovery Act itself are and should be in every case of abuse effective enough to protect the public now as they have in the past. We believe more effective now because practices if engaged in through open price plans are bound to be more

*Statement by J. K. Javits of the Firm of Javits & Javits, Attorneys, 165 Broadway, New York City on behalf of the General Code Authority of the Wholesaling Trade and the Code Authority for the Paper Distributing Trade to Conference Group 2 on Trade Practices—Prices of the Conference of Code Authorities and Trade Association Code Committees of the National Recovery Administration held at Washington, D. C.

open and easily ascertained, and if in violation of the National Recovery program will have no public sympathy and will meet with speedy punishment backed by public opinion. Certainly a great part of the progress so far made should not be sacrificed because of irresponsible and small scale "chiselling" of this character.

The second and third propositions are practically a unit that buyers and sellers should buy and sell in the light of complete information and that unscrupulous buyers should be unable to play off sellers against each other with resulting price destruction. We hear nowadays a great outcry from the buyers that they are being victimized in one way or another. We hear nothing from them about the increased stimulus in business activity and about the tremendous increases in sales of retail outlets. During the depths of the depression in 1932 we heard no complaints from buyers because they sold nothing although the prices were ridiculously cheap. Buyers should remember that only if industry makes a fair profit will they keep their jobs in buying things because otherwise they will be unable to sell that which they buy.

No Indictment Too Severe

We believe that no indictment is severe enough for the unscrupulous buyer. Just as President Roosevelt has branded the ten per cent chiselling fringe of industry so American industry should brand the ten per cent chiselling fringe of buyers who will not live and let live and who will go to any lengths to break a price structure no matter how sound. Such buyers will tell one seller that another seller has made certain offers, proposals and propositions. However, if these offers, proposals and propositions would be met the order would be given to the competitor who is being addressed. Under the open price plan with a time provision there is an opportunity to check up on the truth of the buyer's representation. If the buyers are truthful there is an opportunity for the industry as represented by its Code Authority to check with the seller to determine whether the price change he is making is uneconomic as being below the seller's cost probably because of insufficient knowledge as to his costs or whether some other device is being used to damage the entire industry. If the price being made is above cost it is a signal to the industry generally whose costs may be higher that costs must be scaled down and thus serves a salutary economic purpose. Especially is the small seller victimized by buyers in this way because a small seller has little defense and is always anxious for the order. The open price plan gives the small seller information as to his competitor's activities, large or small, which he has never in American business been able to learn before and which should be as precious to him as his business existence in enabling him to compete intelligently. Secret rebates, deals and allowances which have always militated against the small seller are thus barred through having the light of publicity cast upon them.

Goods Must Have Definite Standards of Quality

One thing has not been expressed or made clear as far as we know with respect to open prices and that is that an open price plan cannot function except on goods having certain definite standards of quality, and must generally be preceded by a simplification program such as has been encouraged in many industries by the Department of Commerce for many years. An open price plan is in most industries impossible except under such conditions. With this premise clear it should be plain even to the most bitter opponent of the open price plan that quality and standards are in this way definitely linked to a stable price structure. The cutting of waste in industry is the one real method of reducing prices to the consumer. There is no real possibility of cutting wastes in industry unless there are definite standards of quality in industry, progress in this direction is best developed through an open price policy. We believe that if standardization of grades and of materials is to be substantially accomplished in this country under present conditions the open price plan must be furthered as the greatest aid in that direction.

It is probably true that there is a certain amount of uniformity in price where open price plans are in effect but that is not because of any diabolic scheme or plan or agreement but because the standardization of products required for an open price plan coupled with the advancing knowledge of costs and of methods of manufacture both by large and small producers gained through bitter experience during the depression, has had a tendency to level off prices. It is ridiculous to assume that because prices are fairly uniform they are unreasonable or uneconomic. Prices must be tested as to their reasonableness in the public interest and that and that alone should determine their economic soundness.

Tends to Creation of Social Viewpoint

The open price plan tends to the creation of a social viewpoint in industry. In other words, it helps the seller and the buyer see their common interest. The American people as a part of the National Recovery program should be re-educated to the idea of paying everyone in the economic process a fair return, with adequate safeguards against monopolistic practices and excessive prices and legal protection against price high-jacking. The buyer will, when a price gets excessively high, always find something else that he can buy which will exert economic pressure to keep prices within reasonable bounds. This is after all the most effective price restraint and the buyer has not been divested of these rights. Nor, as we have pointed out, have the laws of the land which permit the Government to go after anyone who is a party to monopoly or monopolistic practices which in plain language means unreasonable prices, been impaired in their effectiveness.

One of the remaining barriers to the recovery of business and the success of the New Deal is the absence of assurance that industry can and will be permitted to earn a fair return. The open price plan is only one step in that policy and in that direction. The open price plan and policy should be encouraged by the Administration to bring about a realization by all members of industry that they are one great whole and must go forward as a group to work out and make successful the economic experiment now under way.

A Ready Reference Book on Blottings

The Rochester Paper Company, Rochester, Mich., has just released a new loose-leaf book which for the first time in the blotting industry will enable distributors to have complete information about blottings at their hand for ready reference. This new book contains complete information as to the character, sizes, weights, method of packing, prices and quantity differentials on all grades and types of Indian blottings.

Trade customs as adopted by the new NRA code of fair competition for the blotting industry are also included on commercial blotting paper, matrix paper and tablet blotting. This new price book should save considerable time on the part of paper merchants as it contains the answers to problems that arise daily in the buying and selling of blotting paper.

The Rochester Paper Company will gladly furnish a copy of this valuable price book to any responsible paper distributor who has not already received a copy.

Obituary

Joseph Gatti

Joseph Gatti, a pioneer in the waste paper industry and for many years one of the foremost paper stock packers in the United States, died March 11, at his home, 450 West 142nd street, New York. Mr. Gatti was 61 years of age. He had been in fairly good health up to about two weeks before his demise, when he contracted a heavy cold which developed into pneumonia and afterward complications set in which caused his death.

Mr. Gatti's idea always was to handle waste paper on a large scale; that is, to gather the material at the biggest sources of production or accumulation, and to supply it on a huge scale to board, paper and other consuming mills. During his career he had the contracts of most of the large newspaper publishers in the metropolitan area as well as in some other Eastern cities. He was widely known among producers and consumers of waste paper, and he was an authority on the subject of waste paper and all of its ramifications.

Mr. Gatti conducted business for many years under the firm name of the old Gatti-McQuade Company. In November, 1922, he organized and incorporated the Gatti Paper Stock Corporation, of which he was president. He also was interested in the converting business, until several years ago owning and operating the General Paper Goods Manufacturing Company, of Brooklyn, N. Y., manufacturer of paper products. He had been retired from active business for the past two years.

Mr. Gatti is survived by four sons, John J., Ralph J., Joseph J., and Frank J. Gatti, and one daughter, Mrs. Paul J. White.

William Dye Mount

William Dye Mount, consulting chemical engineer, died suddenly on the night of February 28, at 10 o'clock at his home, 9 Riverview place. He was at his office in the morning, returning to his home about noon. He was stricken while reading and death ensued in a short time.

Mr. Mount was born in Groton, N. Y., July 13, 1867, and he was, therefore, 66 years of age. He first married in 1895 Miss Agatha Flanage and in 1910 Miss Alice Martin of Glade Springs. His surviving children are M. B. Mount, of Lynchburg; Miss Barbara Mount, of Richmond; Mrs. R. V. Mitchell, of Whitmel; Misses Eliza and Florence Mount and W. D. Mount 3rd of Lynchburg.

Mr. Mount graduated in mechanical engineering from Sibley College and received M. E. degrees from Cornell University in 1890. From 1890 to 1893 he was instructor in physics at Brown University and the following year he became assistant professor of mechanical engineering.

From 1894 to 1896 he was electrical engineer of the Mathieson Alkali Works at Saltville, later being promoted to master mechanic. In 1898 he was made general superintendent only to receive another promotion shortly after to the post of managing director of entire operation, which post he held until 1918, resigning in November of that year.

Early in 1919 Mr. Mount moved to Lynchburg and became consulting engineer at Glamorgan Pipe and Foundry Company. In 1927 and 1928 he was connected with the Swenson Evaporator Company of Harvey, Ill. He designed and furnished special equipment for pulp and paper mills in Sweden, England and China and the United States. He was also consultant in design of the United States chemical plant No. 4.

Mr. Mount was a member of the board of trustees of V. P. I. during the administration of Governor Stuart. He was a life member of A. S. M. E., member of A. C. S. A. L. C. E., A. I. S. R. E., and honorary member of Sigma Xi. He was also a member of A. F. & A. M. Marion chapter, Royal Arch Masons, and Lynn Commandery of Marion. He also held membership in the Engineers' Club of New York City and the Technical Association of the Pulp and Paper Industry.

His activities in the business life of Lynchburg found him president of the Lynchburg Manufacturers Building, Inc., president of the Guarantee Title and Bond Corporation and secretary-treasurer of the Tenvacar Realty Company.

For years he was a contributor to leading technical publications in the United States.

He held twenty United States patents and twenty-seven foreign patents, including Canada, France, Belgium, England and Sweden.

William N. Morice

PHILADELPIA, Pa., March 15, 1934—William Nelson Morice, retired business man, one-time star cricket and football player at the University of Pennsylvania, died today in Bryn Mawr Hospital. He was in his fifty-fifth year and had been suffering from a heart ailment for some time.

At the time of his retirement a few years ago he was president of the Philadelphia Bag Company, the Philadelphia-Lancaster Bag Company and the Morice Jute Mill. He lived in Flourton and is survived by his widow, Mrs. Mary Harding Morice; a daughter, Eleanor, and a son, William, Jr., who was manager of the Pennsylvania football team in 1931.

In 1898 he interrupted his college studies to join the army during the Spanish-American War. Returning the next year he was graduated with a Bachelor of Science in Economics.

He later became a member of the Halifax Cup cricket team and went abroad with several American teams. He was a member of the Union League, Philadelphia, Germantown, Merion and Frankford Cricket clubs, Huntingdon Valley Country, Cape May Golf, Corinthian Yacht Club of Cape May, and the University Club.

Benjamin Wood

Benjamin Wood, a son of the late Mayor Fernando Wood and manufacturer of dry flongs, commonly called dry mats, for use in newspaper stereotyping, died March 14 at his home, 4 East 72nd street. He was also a well-known art collector. His age was 61.

Mr. Wood was descended from Henry Wood, Quaker shipbuilder of Bristol, England, who, with eight sons, was driven to emigrate in search of religious freedom. He settled among the Indians in New Jersey and eventually the Woods became William Penn's agents among the Indians. Two of Mr. Wood's great-grandfathers were captains in the Continental Army.

For a time Mr. Wood was treasurer of the Wood Newspaper Machinery Corporation, of which his brother, Henry A. Wise Wood, inventor and manufacturer, is president. In 1910 the brothers founded the Wood Flong Corporation, importing dry flongs from Germany and manufacturing them here. They were among the first to put the flong on the market as an import.

They created a new industry in this country in making the dry flong, a process which revolutionized newspaper stereotyping. Mr. Wood had faith in the future of the dry flong and successfully carried out plans for making it

in the United States. His company was the first in this country to perfect the manufacture of dry mats so that when importation was shut off in the World War, the market was supplied by domestic production.

The dry mat supplanted the old wet mat process. Its use speeded up stereotyping. He was chairman of the board of directors, treasurer and former president of the company.

Mr. Wood was active in Red Cross work in the World War and gave generously to that and other charities. He was a former member of the Seventh Regiment and of a number of clubs, including the Manhattan, Calumet, Friars, Watchung Hunt and Baltusrol Golf. He was, at his death, a member of the New York Yacht Club and the Sons of the American Revolution. He traveled extensively and was formerly active as a golf player.

Mr. Wood married three times, his first two marriages, to Miss Grace Hutton and Mrs. Eloise S. Kilborn, having ended in divorce. He married, in 1928, Mrs. Lorraine Graves, who survives, as do a son, Curtis Hutton Wood, and three brothers, Henry A. Wise Wood, Otis Fenner Wood and Washington F. Wood, all of New York.

Burton I. Rike

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, March 19, 1934—Death removed one of the leading members of the paper industry in the Miami Valley last week when Burton I. Rike, president of the Rike Paper Company, and vice-president of the Germless Cup Company, passed away at his residence 148 Central avenue, Dayton View, last Wednesday morning.

Mr. Rike was 62 years of age. He was born in this city on the site of the present Community Park and was the son of Jesse and Anna Bimm Rike, widely-known residents.

Upon the completion of his school course in the Dayton schools he attended the National Normal College at Lebanon, Ohio.

Returning to Dayton, he became connected with the Mead Paper Company, with which he was identified under the old management for a number of years. It was while in this employ, that he gained his knowledge of the business. He was an expert in the sales department. Some years later he and John Keough, who also was identified with the Mead company as a mill superintendent and in other capacities, formed a partnership, the firm being known as the Keough-Rike Paper Company. The firm was successful almost from the start, both men having a wide acquaintance in the trade.

The partnership continued until the death of Mr. Keough fourteen years ago. The interest of Mr. Rike was then sold to the Whitaker Paper Company, Cincinnati. One reason for disposing of his share in the business was due to the fact that during his association with Mr. Keough he had already founded another company, the Rike Paper Products Company, with a factory at Hartford and Campbell streets, Edgemont.

This company has enjoyed a splendid growth in recent years. The Germless Cup Company became a subsidiary several years ago.

Although Mr. Rike was largely absorbed in the conduct of his own business enterprises, he found time to assist in civic and public projects.

Mr. Rike is survived by his widow, Mrs. Jane Rike; two daughters, Mrs. Anita Theobald, of Dayton; and Mrs. Katherine Thomas, of New York City; five brothers, Herman, Carl, Charles, Perry and Fred Rike; and one sister, Mrs. Lacey Peterson, all of Dayton.

Funeral services were conducted Friday afternoon from his late residence and were in charge of Rev. Phil Porter, rector of Christ Episcopal Church. Interment was made in Woodland Cemetery.

The paper plants in which Mr. Rike was interested were closed on the day of the funeral and virtually all of the employees and the officials of the concerns attended the rites.

Herbert M. Wiswall

Herbert M. Wiswall, well-known paper maker, died at his home, 214 Concord street, Newton Lower Falls, Mass., last week. Mr. Wiswall was in his seventy-sixth year and had lived in Newton most of his life.

For fifty years he was a paper maker in Newton Lower Falls. He was born seventy-five years ago in North Carolina, the son of Augustus C. and Ellen F. Wiswall. His parents moved to Newton Lower Falls, where his father established the A. C. Wiswall Paper Company. His grandfather, Thomas C. Wiswall of Exeter, N. H., was one of the first persons in this country to make paper by hand.

Mr. Wiswall learned the paper business in his father's establishment. Previous to his retirement four years ago he was a department superintendent of the Wakefield Paper Box Company in Wakefield.

He was unmarried and is survived by two brothers, Clarence A. Wiswall, of Reading, and Harry T. Wiswall of Somerville.

Leonard Gossman

EWING, Ind., March 15, 1934.—The management and employees of the Kieffer Paper Mills were shocked at the death of Leonard Gossman, who had been a trusted employee in the Finishing Department for fourteen years. Mr. Kieffer, general manager, states that he was caught in a line shaft Wednesday, March 7, and his left arm was badly mangled. First aid was given at the mill and then he was removed to Schneck Memorial Hospital, Seymour, Indiana.

Efforts were made to save his arm but tetanus set in and his arm was amputated Sunday in an effort to save his life, but the deadly poison could not be controlled and he died at 8:20 P.M. on the 14th.

This is the first fatal accident that this company has had in its 30 years of existence.

J. P. Burke Calls for Six-Hour Day

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., March 19, 1934—John P. Burke, international president of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers, told 150 union men at a meeting last night that "we'll go on a 6-hour day, but before we take another reduction in wages, we'll close mills down."

The 40-hour week as established by the NRA was not solving the unemployment problem in the industry, Mr. Burke said, adding that the 6-hour day must come to place an extra shift of men in each mill.

Had the price-cutting practiced before the institution of the NRA continued it would have meant the "utter ruin of the newsprint industry," he went on. The reason United States mills had lost business in the last few years was that they "were underbid by foreign concerns with larger machines."

United States mills, operating under the NRA newsprint code, could not compete with Canadian mills bound by no code, Mr. Burke said, and something must be done against unfair competition.

CROWN ZELLERBACH CORP. ANSWERS ALLEGATIONS

(*Continued from page* 11)

2. There being at the present time outstanding 948,000 shares of common stock of Zellerbach Corporation, including common stock held for conversion, Zellerbach Corporation will further declare a stock dividend of approximately five and one-half per cent, on its common stock, so as to bring the outstanding common stock of Zellerbach Corporation up to 1,000,000 shares.

3. Zellerbach Corporation will issue to its stockholders as a stock dividend 200,000 shares of preferred stock, with a dividend rate of $5 per annum, callable on any dividend date at $102.50 and payable on liquidation at $100 per share.

4. The name of Zellerbach Corporation shall be changed to Crown Zellerbach Corporation.

5. Crown Willamette Paper Company will submit to its stockholders the proposition of exchanging the present authorized outstanding common stock of Crown Willamette Paper Company, amounting to 1,000,000 shares of common stock, or so much thereof as may be turned in for that purpose, but not less than seventy-five per cent thereof, for an equivalent amount of the common stock of Crown Zellerbach Corporation.

6. Crown Zellerbach Corporation will exchange 1,000,000 shares of its common stock, or so much thereof as may be exchangeable, share for share, for shares of common stock of Crown Willamette Paper Company turned in for that purpose, but not less than seventy-five per cent of 1,000,000 shares, for an equivalent amount of shares of common stock of Crown Willamette Paper Company.

7. After the completion of the transactions hereinabove referred to, it is proposed that Crown Zellerbach Corporation will place its common stock on a dividend basis of one dollar per share per annum.

8. Crown Zellerbach Corporation will create a ten-year voting trust consisting of ten voting trustees, five of whom shall be named by Crown Willamette Paper Company and five of whom shall be named by the present board of directors of Zellerbach Corporation, and said voting trustees shall vote the common stock of Crown Zellerbach Corporation and shall have powers and duties substantially the same as the present voting trustees of Crown Willamette Paper Company.

9. The common stock of Crown Zellerbach Corporation shall be held by voting trustees, who shall issue voting trust certificates therefor, and for this purpose at least seventy-five per cent of the common stock issued to and outstanding with the present stockholders of Zellerbach Corporation shall be exchanged for such voting trust certificates, and all of the common stock of Crown Zellerbach Corporation issued in exchange for common stock of Crown Willamette Paper Company shall be exchanged for such voting trust certificates.

10. The number of the board of directors of Crown Zellerbach Corporation shall be increased to fourteen, seven of whom shall be named by the present board of directors of Crown Willamette Paper Company, and seven of whom shall be named by the present board of directors of the Zellerbach Corporation.

11. The officers of Crown Zellerbach Corporation shall be the following: Louis Bloch, chairman of the board of directors, and I. Zellerbach, president, as chief executives of the corporation, in whom shall be jointly vested the direction and management of the corporation until July 31, 1933; M. R. Higgins, chairman of the executive committee; J. D. Zellerbach, E. M. Mills, and A. B. Martin, executive vice-presidents. There shall be an executive committee to be selected by the chairman of the board and the president from the active executive staff; such selection to be subject to the approval of the board of directors.

12. The Crown Zellerbach Corporation directors shall vote for the election of Louis Bloch and of A. B. Martin as directors of Crown Willamette Paper Company from year to year until July 31, 1933, and until said July 31, 1933, Louis Bloch shall be president of Crown Willamette Paper Company and A. B. Martin shall be an Executive Vice-President of Crown Willamette Paper Company at not less than their present salaries.

13. Pending the carrying out of the provisions of this agreement, the parties hereto agree on behalf of their respective corporations that there shall be no changes in corporate structure, no dividends other than the usual dividend rates, nor any transaction affecting the operation or management or financial status of their respective corporations, except such as occur in the usual course of business.

14. Upon receiving the approval of seventy-five per cent of the outstanding common stock of Crown Willamette Paper Company and of the board of directors of Zellerbach Corporation, the parties hereto agree to cause their respective corporations to take the necessary steps to carry out the provisions of this agreement and to secure the necessary consent of the Commissioner of Corporations.

15. The directors and stockholders of the corporations respectively concerned shall take the necessary action to carry into effect the agreements herein expressed, including necessary amendments to articles of incorporation and by-laws.

In Witness Whereof, on the day and year first above written, the parties hereto have hereunto set their hands.

LOUIS BLOCH, I. ZELLERBACH.

Alexander Thomson Presides

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, March 19, 1934—Alexander Thomson, president of the Chamber of Commerce of Ohio, and head of the Champion Coated Paper Company, Hamilton, presided last Thursday for the first time, at an Ohio C. of C. directors' meeting in Columbus, where the headquarters of the organization are located.

Mr. Thomson, who also is president of the Hamilton Chamber of Commerce, was elected to head the Ohio Chamber only recently. Presiding over the board meeting, he pointed out that the state body represents not one class of business but a cross-section of all fields of endeavor, regardless of size or kind.

American Writing Gets Judgment

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., March 20, 1934—The United States Circuit Court of Appeals has authorized the Federal District Court to enter judgment against the Holyoke Water Power Company in their suits against the American Writing Paper Company, Inc., in the famous "silver bullion" cases. Following the decision of the lower court the Holyoke Water Power Company asked for stay of mandate be given for a number of days pending the filing of the case with the United States Supreme Court. The Company did not avail itself of this stay but later the case may be brought to the highest court.

Senate Wants Pulp and Paper Information

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 21, 1934—Senator Hale of Maine introduced a resolution which was passed by the Senate calling upon the Secretary of Agriculture for certain information in connection with paper and pulp. The resolution is as follows:

RESOLVED, That the Secretary of Agriculture be, and he is hereby, requested to submit to the Senate at his early convenience a report based on information already available covering—

(a) The extent to which the United States now depends upon imports of pulpwood, pulp, and paper to meet national requirements.

(b) Whether and the extent to which it is now possible with known pulp and paper processes to supply from the forest lands of the United States all of the pulpwood needed to meet the national pulp and paper requirements.

(c) What adjustments are feasible and necessary and what program of forest conservation is recommended for the immediate and more distant future by the Federal Government, the States, the pulp and paper industry, and private owners of forest lands to make the United States self-supporting in its pulpwood, pulp, and paper requirements.

(d) Whether it would advance or retard the program of forest conservation to make the United States self-supporting as to pulpwood, pulp, and paper requirements from American forests.

There was practically no discussion on the resolution in the Senate except that Senator Robinson of Arkansas, majority leader, asked for some explanation of its purpose. In this connection Senator Hale said:

Recently much has been said about the pulpwood, pulp, and paper industries being failing industries, and it has frequently been stated that if we are to preserve our fast-vanishing soft-wood forests we have got to depend largely upon foreign production. In the State of Maine, where I live, the pulp, paper, and newsprint industries are the principal industries of the State, which supplies about one half the newsprint production in this country and about 20 per cent of the woodpulp production. Through a careful system of cutting our spruce, our fir, and our hemlock forests, instead of vanishing, are increasing, and our available supply of pulpwood instead of diminishing, is increasing.

Through improvements and modern methods of manufacturing and using wood pulp, it is not improbable that through the development of this product in the southern and northwestern States, the business can be put on a basis where the entire supply for the United States can be produced in this country without sacrificing our forests.

The Bureau of Forestry has made an extensive survey of the whole question and has much valuable information in its possession already compiled. I believe that such information should be available for the Congress. All that the resolution seeks is to have the information furnished to the Congress. I cannot see why anyone should object to the resolution.

Plans for Superintendents Meeting

Excellent progress is being made on the general program for the Fifteenth Annual Convention of the American Pulp and Paper Mill Superintendents Association, which will be held at the Poland Springs House, South Poland, Me., June 20, 21 and 22. The program thus far shapes up as follows and is the outline of the full event.

Wednesday, June 20—Entire day for sports, with sports jamboree in the evening for the men at the Poland Springs House and a special party and entertainment for the ladies at the Ricker Inn.

Thursday, June 21—General business assembly in the morning and afternoon, with presentation of paper. Luncheon at which a man of national prominence will be the guest speaker. Special water sports program in the late afternoon. Dinner in the evening, with a speaker of prominence and entertainers.

Friday, June 22—Group discussions in the morning and afternoon. Closing banquet in the evening at which a man of international fame will be the speaker.

On each day of the Convention there will be special program for the exclusive entertainment of the ladies.

On Thursday and Friday special periods have been set aside for inspection of the machinery and equipment exhibits in the main corridor between the main lobby and grand ball room of the Poland Springs House. Machinery and equipment concerns interested in exhibition spaces should write immediately to George W. Craigie, Executive Secretary, Box 36, Cumberland Mills, Me. In fact, Mr. Craigie will endeavor to supply any general or special information about the convention, hotel accommodations, railroad fares, automobile routes, special trips and mill visits.

Assignment of rooms at the Poland Springs House, Mansion House and Ricker Inn will be made in the order of receipt of reservations.

Chairman of the various divisions of the Superintendents Association throughout the United States may secure 16 M.M. size films for small moving picture projectors, showing scenes around Poland Springs and Maine in general by writing to Mr. Craigie. These films should be viewed with interest at Divisional meeting holding forth between now and June 20.

The General Conventon Committee wishes to impress on all pulp and paper makers and representatives of affiliated industries that the costs of attending this convention will establish a new low record. The hotel rates are: Room with bath, $7.00 per day. Room without bath, $6.00 per day. The rates include all meals and the banquet. Registration fee for members is $3.00. There is no fee for the ladies. Registration fee for representatives of affiliated industries $8.00. Green fee for golf on the 18-hole course is $1.00. There are no other charges.

Micarta Suction Box Cover

A new design of suction box cover using micarta instead of wood is among the recent products of the Westinghouse Electric and Manufacturing Co., East Pittsburgh, Pa. It is uniform; it wears down very slowly; it doesn't wear in

ridges. Covers have run 120 days continuously before being resurfaced. The life of the wire is increased. The arrangement of holes has been determined mathematically to give uniformity of suction area across the box. The holes are smooth and remain so. They do not plug up. Streaks in the paper are eliminated. The suction box cover is but another achievement in the application of micarta to a variety of difficult jobs.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Los Angeles, Cal.—The Crown Willamette Paper Company, 2945 East 12th street, with headquarters at 343 Sansome street, San Francisco, Cal., is considering new addition to local plant for manufacture of paper bags and containers. It will be one-story, 150x200 feet, reported to cost over $75,000, with equipment. An architect will be selected to prepare detailed plans at early date.

Philadelphia, Pa.—The Schuylkill Paper Company, Lafayette Building, has leased floor in the building at Third and Vine streets, and will occupy at early date for storage and distributing service, etc.

Atlanta, Ga.—The Southern Waxed Paper Company, 480 Woodrow street, S.W., manufacturer of waxed and other processed paper stocks, has awarded general contract to the Samuel N. Hodges Company, 262 Runson road, N.E., for new addition to plant, to be one-story, 75x160 feet. It will cost over $60,000, including equipment. It is proposed to begin superstructure at once and have unit ready for service at early date.

Worcester, Mass.—The Massachusetts Paper Mills Corporation, recently chartered by Joseph F. McCormack, Wheelwright, Mass., and associates, is planning early operation of mill in this vicinity. It is understood that company will take over existing property for proposed plant. Mr. McCormack will be president and treasurer.

St. Charles, Ill.—The United States Printing and Lithographing Company, manufacturer of paper containers, cartons, etc., is completing new addition to its paper converting plant, previously referred to in these columns, and proposes to occupy the structure by the close of the month. It will be one-story, 97x380 feet, reported to represent an investment of close to $75,000, including equipment. C. A. Anderson, St. Charles, is general contractor. Robert Salisbury, Liberty Building, Wheaton, Ill., is architect.

New York, N. Y.—The J. J. Murphy Paper Company, 43 Wooster street, has leased space in building at 621-29 Sixth avenue, and will occupy for storage and distribution service.

Philadelphia, Pa.—The D. Schultz Company, 757 East Passyunk avenue, is considering early rebuilding of portion of wall paper manufacturing plant in southern part of the city, recently destroyed by fire, with loss reported close to $60,000, including equipment. Reconstruction is estimated to cost close to like amount.

Brooklyn, N. Y.—The Mermaid Bag and Paper Corporation, recently organized with capital of $30,000, represented by D. George Levine, 51 Chambers street, New York, plans operation of local paper converting plant for the manufacture of paper containers, paper cups, etc. It is understood that new company will take over and expand the Mermaid Paper Company, Inc., 2910 West 21st street, Brooklyn.

Greensboro, N. C.—C. C. Hudson, Lacy Sellers, both of Greensboro, and associates, have begun the construction of a new one-story mill on local site, about 140x250 feet, to be equipped and occupied for cellulose rayon production. The new plant will be operated by J. Spencer Love and W. J. Carter, both identified with the Burlington Mills, Burlington, N. C., a textile organization. A one-story power house will be built, with other mechanical departments. Entire project is reported to cost over $90,000, with machinery.

Port Ontario, Ont.—The Provincial Paper Company has changed its power service from steam to electric, utilizing power supply from the hydroelectric generating station of the Ontario Hydroelectric System on the Nipigon River. The power is employed for generating steam in two electric boiler units, each with rating of 12,000 kilowatts. Heretofore coal has been employed for fuel for this purpose, totaling over 30,000 tons of soft coal for annual requirements. New plan of service is expected to show increased efficiency in operation.

Adelaide, Australia—The Department of Industry, Government of South Australia, Adelaide, is said to have tentative plans under way for the construction of a new Government-owned paper and pulp mill, to consist of several main operating units, with power house, machine shop and other mechanical departments. A site for the plant is being determined. Project is reported to cost close to $500,000, with machinery.

New Companies

New York, N. Y.—The Viking Paper Company, Inc., has been incorporated with capital of $10,000, to deal in paper products of various kinds. The incorporators are George M. Freeman, Fred Scharf and Charles J. Malmed, all of 174 Wooster street, city.

Detroit, Mich.—The West Side Paper Stock Company, 614 Hammond Building, has been organized with nominal capital of $1,000, to deal in paper goods of various kinds. A. Morris, 2936 Montgomery avenue, is principal incorporator and representative.

Los Angeles, Cal.—The Pacific Label Company, 407 East Pico street, has filed notice of organization to manufacture paper labels and kindred paper goods. P. M. Couturier, 4786 Academy street, heads the company.

New York, N. Y.—The Max Bloom and Brother Paper Corporation has been incorporated with capital of $20,000, to deal in paper products of different kinds.

New company is represented by Sydney A. Weinstock, 521 Fifth avenue, city.

Brooklyn, N. Y.—The Modern Stationery Manufacturing Corporation has been incorporated with capital of $10,000, to manufacture commercial and other papers, writing stocks, envelopes, etc. Gerold Cornblatt, 2350 Crescent avenue, Bronx, New York, is one of the principal incorporators.

Dayton, Ohio—The Hydraulic Rag and Paper Company has been chartered with capital of 100 shares of stock, no par value, to deal in waste paper stocks. The incorporators are Paul Sherer and Benjamin M. Patterson, 1105 American Building. Last noted is company representative.

Wilmington, Del.—The Universal Bag Closing Machine Company, Inc., has been incorporated under direction of the Colonial Charter Company, Ford Building, city, with capital of $100,000, to manufacture bag-filling, bag-closing and allied special equipment.

William B. Zumwalt Retires

[FROM OUR REGULAR CORRESPONDENT]

SEATTLE, Wash., March 17, 1934—William Bruce Zumwalt pioneer of the Pacific coast paper and pulp industry and for the past 20 years superintendent of the Powell River Company, Powell River, B. C., is retiring from active work because of ill health, according to a report from company officials. He will make his home in Portland, Ore.

Well known about paper and pulp circles, Mr. Zumwalt has a long record of service, having been previously associated with pulp mills in Oregon. He helped install the first power line between Portland and Oregon City in 1889. Working as millwright with Crown Willamette Paper Company he advanced to construction foreman and asssited in the erection of the first mill for Willamette. Later he occupied the same position with Crown Columbia Company and was foreman of Hawley Pulp and Paper Company in 1910. Two years later, 1912 Mr. Zumwalt moved to Powell River.

Paper and pulp leaders point him out as responsible for the growth of the paper industry in British Columbia regarded him as an outstanding pulp authority in the West. The Powell River under the superintendency of Mr. Zumwalt ranked as one of the largest individual newsprint mills in the world.

Hartford City Paper Co. Joins TAPPI

The Hartford City Paper Company of Hartford City, Ind., has recently become a corporated member of the Technical Association of the Pulp and Paper Industry and will be represented in the association by Olaf Hedstrom, Sr., who is president, general manager and superintendent.

The company was started in 1905 to manufacture glassine and greaseproof paper and is believed to be the first company in the United States to make this class of paper. At that time Louis Fox was president, B. A. Van Winkle, general manager, and Mr. Hedstrom, general superintendent. Since then Messrs. Fox and Van Winkle have died.

The company started with one machine, but in 1910 a second machine was added. There is now a 94-inch and a 120-inch Fourdrinier and thirteen 1,000-pound beaters. 36,000 pounds of glassine, greaseproof, manifold and embossed glassine are made daily.

Besides Mr. Hedstrom the other officers of the company are O. A. Fox, vice-president and treasurer; E. H. Miller, secretary; and Ray Van Winkle, sales manager.

Bagley & Sewall Increase Wages

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., March 19, 1934—Announcement is made by the Bagley & Sewall Company of the placing in effect of a ten per cent increase in wages following a meeting of officials. The increase is in accordance with promises made to employees that such steps would be taken as soon as conditions warranted. An official of the company reviewed conditions during the past few years at the meeting and pointed out that careful consideration had been given to the difficulties of employees during the dull period. It was stated that no revisions had been necessary until the spring of 1932 and that these were decided upon only after a falling off in business. Officials also claim that competition is still keen despite the efforts of the federal government which necessitates close figuring to keep abreast with competitors. It was also stated that it would be disastrous to the interests of all concerned if the company should allow costs to reach a status where they would prohibit obtaining sufficient orders necessary for operations. It is contended that obtaining this volume of business depends on convincing prospective customers that the selling price is determined on costs consistent with general conditions. The advance in wages conforms in respect to the improved business conditions being experienced.

A contract for a new paper machine has been received from the Eastman Kodak Company, Rochester, and construction has already been started. The machine will be similar to the order filled in 1930 for the same company and the contract calls for delivery early in the summer. While it will not compare in size to some of the huge machines turned out here nevertheless it will require precise construction by skilled workmen. The contract calls for sixteen 48-inch driers, two main presses and a special kind of drive. It will be a 100-inch paper machine with all gearings enclosed and the bearings of the roller or ball variety. It will conform in every respect to the latest and most modern in paper machine construction. Plans call for speed, economy of motor power, quietness and precision in operation. It was declared that enclosing the gearing will provide the utmost in protection to operators and to machine.

Morris Pump Bulletin

A bulletin on double-suction horizontally-split centrifugal pumps has just been published by Morris Machine Works, who are the oldest American manufacturer of centrifugal pumps, having originated this type of pumping unit 70 years ago.

The new bulletin outlines the important advances in centrifugal pump design which within the last few years have vastly improved the efficiencies obtainable with this type of pump, and explains the details of Morris design which characterizes their present standard double-suction split-case pumps. The bulletin also includes many illustrations showing the construction of these pumps, the various arrangements in which they are furnished, typical performance curves and representative installations in industrial plants and municipal pumping stations.

Engineers and operators responsible for successful centrifugal pump service will also be interested in a section of the bulletin which describes the precautions that should be taken in the installation and operation of centrifugal pumps and diagnoses the most common causes of service interruption.

Copies of the bulletin may be obtained by addressing Morris Machine Works, Baldwinsville, N. Y.

PAPER TRADE JOURNAL
ESTABLISHED 1872

15 West 47th St., New York, N. Y.

Henry J. Berger
Editor

Ronald G. Macdonald
Editor Technical Section

Herbert J. Laughton
Associate Editor

Thomas J. Burke, C. A.
Editor Cost Section

Lynne M. Lamm
Washington Correspondent

Price, Per Copy, 10 Cents

United States, Per Annum, $4.00

Canada, including tax, $7.50; Foreign Countries in Postal Union, $6.00

Member Audit Bureau of Circulations

Vol. XCVIII New York, March 22, 1934 No. 12

This publication is now and always has been printed on paper made in the U. S. A.

NEEDED PROPS FOR "NO SALES BELOW COST" CODE PROVISIONS

Most codes, getting right down to their proverbial meat in the cocoanut, represent a swap of maximum hours and minimum wages for cost protection; that is, a provision in one form or another about not selling below cost. Whether industry has, will, or can come out ahead in the bargain is now beside the point. Whether cost protection can work under the New Deal, and atone for its consistent disastrous consequences under the old, is also afield.

It is here as part of our economy, asserts P. S. Seidman of Seidman & Seidman, certified public accountants, in an interesting statement for the PAPER TRADE JOURNAL, whether we like cost protection or not, whether we think it is real or an illusion, whether we regard it as salvation or damnation. It is an existing implanted force. Our concern must therefore be with cultivating and guarding it so that if it is in the cards at all for it to work, we can blaze the road that brings us to the desired destination.

Out of 200 codes analyzed, 133 contain cost protection provisions of one sort or another, while 67 do not. This is the first weakening link. If cost protection is to work, if it is to protect, then its grasp must extend over *all* competing units. To tie the hands of one while another is left arm-loose, is to make the jaw of the first a punching bag for the second. Coal and oil, for example, or brick, cement, lumber, and structural steel are famous and sensitive competitors in their appeal to the consuming family. Their place in the sun essentially hangs on price relationship. Their exposure is so delicate that to set a price floor limit for one, without a corresponding and correlative bottom for the other, harbors dangers for the first that may lead to its strangulation, and even ultimate suicide.

But even assuming coordination has been perfected and the wings of cost protection spread over all competing units, there will still be no peace in the ranks unless the same principles of arriving at cost are utilized. It is obviously little balm for everybody to be under cost protection if cost is one thing for one industry and a wholly different "animal" for another.

Referring again to the 200 Codes, of the 133 with cost protection, 95 prescribe as a criterion cost to the individual operator, 15 promise it on reasonable cost, six on average cost, and 17 on the basis of various formulae. Such shifting sands hardly make for smoothness in whatever interrelationship may be involved among the industries affected. To the contrary, the clash of methods is likely to put some industries out on the limb, to the advantage of competing groups.

It is not here implied that there is or should be any single finite yardstick by which cost is to be admeasured for all industries. That theoretical ideal is defied and overwhelmed by practical cross-currents. But it does seem that the fundamental approach, be it individual costs, reasonable costs, average costs, formulae, or what not, should be *uniformly* applied to competing units.

With this done, we must then follow through into the realm of uniform accounting principles, if competitors are to talk the same language and play the game by the same rules. Such matters as those yearn for definite ruling: invoice cost of raw material versus replacement cost; inventorying at first cost, last cost, or average cost; the status of executive salaries; depreciation and depletion on cost or value, and the rates applicable; interest on investment; overhead in relation to actual, normal, or reasonable volume or capacity.

These are but a sprinkling of some of the important items about which accounting is still engaged in battle, with both sides thus far successful. It is apparent that in jockeying for position between competitive groups, one horse can easily outrun the other merely by a different turn accorded any of these items. The door leading to such possibilities should be closed before occasion for real mischief sets in. The National Recovery Administration has an opportunity to nip this possible source of disturbance in the bud. Just as the Treasury Department has tackled and very successfully handled the national uniform accounting problem involved in income tax matters, so also the Recovery Administration can—nay, even must—prescribe the fundamental rules for cost protection to prevent accounting bedlam. In a recent release the Administration made a commendable start in lining up the accounting problems.

Assuming all competing units are to be placed under the same type of cost protection program, the salient question to be answered is what, broadly considered, shall that type be?

We have seen that of the 133 codes containing cost protection provisions, ninety-five, or close to 75 per cent of them, prescribe individual costs of the respective operators as the criterion. Such an arrangement appears to be subversive of the most fundamental of NRA objectives, in that it creates and nurtures airtight monopolies. All other

things being equal, it obviously gives exclusive control of the field to the lowest cost producer in the respective markets. He has the jump on everyone else and is armed with the legal assurance that no one may in any way compete with him in the lower price realm or even attempt to meet his price. It is only when his production is entirely absorbed or he is willing to let prices rise to the point where a higher cost producer may legally enter the market that anybody else can begin to have a look in.

It was undoubtedly the awareness of this eventuality that prompted an adjusted provision in 45 codes, making it possible to meet the competition of a lower cost producer. Theoretically this takes care of the difficulty, but as a practical proposition it is still wide of the mark. The fact of the matter is that the way business is conducted, a would-be seller does not know whom he is competing against. Buyers don't, as a rule, let on. Furthermore, even knowing the competition does not dissolve the difficulty, for we must then find out what the competitor's costs are, and of course competitors don't advertise their costs. And if they did, buyers don't wait until you can go out and check up on the other fellow, and determine whether you can drop your offering price.

It would be presumptuous to declare that there is a ready-made answer and cure-all, but the few codes permitting cost protection on average industry costs are believed to provide a more wholesome backlog. Average costs have the advantage of establishing one basic minimum price, whereas with individual costs there are as many minimum prices as there are costs. Under average costs everybody has the same competitive ability in the market, in so far as price is concerned, and the sale of the entire product of an industry at the minimum price brings the industry out whole—which is in precise accord with the objects of cost protection.

Under individual costs, the individual computative problems are herculean, and effective policing still worse. With average industry costs, these matters are considerably simplified. Accounting detail losses some of its significance, as throwing all figures into the hopper limits the importance of any one set of figures. This makes it unnecessary to be as meticulous in the pursuit of the cost inquiry as may be required with individual costs.

It is realized that the path of average cost is not all milk and honey. In the first place, there must be standards or grades for the products of the industry, or else there is no common denominator around which to build averages. Furthermore, under average costs, the freight equalization problems enter. There are other possible objections, but all things considered, average cost certainly seems to command economic superiority over its alternative of individual cost.

There is a collateral, but important phase in the whole cost protection situation, namely the cost accounting aspect itself. Needless to say, anything that can produce the desired results in the quickest, simplest, and most practical manner is to be strongly embraced. We are in an emergency situation right now, and industry can hardly afford to be retarded by accounting frills and fancies. General bookkeeping and accounting is one thing. Cost accounting is entirely different. It is much more detailed and complex than the general books. The ordinary processes of cost accounting work along synthetic lines; that is, they attempt to build up to total costs by marshalling the individual components of cost. There may be no particular difficulty surrounding the ascertainment of material and direct labor costs. It is the overhead—factory, commercial, and administrative—that provides the rub. This entails, as a rule, departmentalization, time studies, allocations, and what not. To the layman it often looks like hairsplitting with a maze of figures, and when the results are announced, he is not infrequently inclined to evince skepticism.

The difficulties of cost accounting can perhaps be avoided by proceeding as is done under the lumber code. There, the industry is told first to ascertain total costs. That is relatively easy, as it is obtainable right from the general books. No fine-spun analyses, job records, etc., are needed. Then, the items produced for this total cost are listed and the total cost spread over these items on the basis of their relative market value over a representative period. In other words, instead of building up costs synthetically, they are broken down from more easily ascertainable total costs. Furthermore, in this breakdown method, the costs of the respective items are maintained in relation to the value placed on them by the market.

This costing method makes it possible to get away entirely from orthodox cost accounting, and to arrive at costs far more expeditiously and economically. It should be pointed out that the method is not entirely child play in case of application. It has its limitations and drawbacks. It is ideal in precision and effectiveness in cases where the items produced are few and are standard. The picture changes, however, where the items of production are legion or special order. In the fields where the method can be adopted, it may prove a satisfactory solution for an otherwise troublesome cost accounting horizon.

The matters here raised for consideration—uniformity in approach, in accounting principles, and simplicity in cost computation—can only be handled from the top down, so to speak. Affecting as they do, all industry, directly or indirectly, they involve coordination that the Administration alone can supervise. Some of them may not yet have popped to the forefront, as cost protection has hardly gotten under way in many industries. To button them up now would be a timely precaution and prevent the possibility of letting cost protection get out of hand. In terms already sounded, it would help protect cost protection and let cost protection do protecting.

Miami Valley Reports Improvement

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, March 19, 1934—Conditions in Dayton and the Miami Valley this week are better in many respects than for some time. The printing and allied trades are receiving the benefit of the improvement; increased advertising in the various daily and weekly publications reflects a greater volume of business. Printing and publishing plants are taking on more printers and the consumption of many lines of paper is increasing steadily.

Liquid Caustic Soda

● Mathieson supplies the requirements of a large percentage of America's most exacting purchasers of chemicals. ● That these firms continue to do business with us, year in and year out, is more convincing evidence of the purity and uniformity of Mathieson products than any claim we might make ourselves. ● As one of the foremost producers of solid and liquid caustic, we maintain a technical staff which you are invited to consult on any problem that involves the use of caustic soda or any other Mathieson product.

Soda Ash . . . Liquid Chlorine . . . Bicarbonate of Soda . . . HTH and HTH-15 . . . Caustic Soda . . . Bleaching Powder . . . Ammonia, Anhydrous and Aqua . . . PH-Plus (Fused Alkali) . . . Solid Carbon Dioxide . . . CCH (Industrial Hypochlorite)

***The* MATHIESON ALKALI WORKS (*Inc.*), 250 PARK AVE., NEW YORK, N. Y.**

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Probable Error and Accuracy of Testing

By Ragnar Monnberg[1]

A discussion of the elementary aspects of accuracy in testing of paper has recently been the subject of two articles in the American trade journals. *(1), (2)*. It has been gratifying to see that this important fundamental feature of testing now receives attention. The commercial relationship between buyer and seller is in our days to a very great extent influenced by interpretation of test results. Proper interpretation is therefore essential.

The probable error of an adopted and approved testing method is best determined by a series of complete tests on one and the same material. A number of such series might be established choosing typical material for each series. An idea about the influence of the nature of the medium itself is thereby also secured. Preferably the materials for the various series are selected with as much latitude in variation of the property under investigation as possible. The relative probable error should always be used rather than the direct numerical probable error. For instance, if you wish to find the error in strength testing, carry out 10 tests on weak pulp, 20 on a sample of medium strong pulp and 10 on very strong pulp. In case all the three groups show relative probable errors in close agreement, calculate the relative probable error for all tests, using relative deviations instead of absolute deviations.

This article is written with the object of presenting the results of error determinations characterizing the accuracy which has prevailed in a commercial laboratory.

Presentation of Data

In all cases E means *relative* probable error.

(1) Alpha cellulose determination applied on commercial sulphite pulp:

a. Modified American Chemical Society method.
Year 1928. E=±0.12 per cent

b. Original Jentgen method.
Year 1928. E=±0.30 per cent

(2) Copper number determination on commercial sulphite pulp. Schwalbe-Hägglund method:

a. Heating with free flame; size of flame standardized as well as distance to flask.
Year 1928. E=±5.9 per cent

b. Heating with calcium chloride bath.
Year 1928. E=±5.0 per cent

Probable test result on the samples used, Copper number 2.82±0.14.

(3) Pitch extraction of sulphite pulp in soxhlet. Using Jena porous glass thimbles, 12 hours extraction time, standardized heating device for extraction, slow drying of extract at 96 to 100 deg. C., (never over), weighing every 2 hours to ascertain constant weight.
Year 1928. E=±1.0 per cent
Probable test result on the sample used:
Pitch 1.40±0.015 per cent of oven-dry pulp.

(4) Ash in sulphite pulp.
Year 1928. E=±2.6 per cent
Probable test result for the sample used:
Ash 0.270±0.007 per cent of oven-dry pulp.

(5) "Mead Value" test. A test similar to "Gephart" value. Compounded Mullen and Elmendorf Strength of beaten pulp.

Experienced tester.	Year 1930.	E=±1.96 per cent
Inexperienced tester.	Year 1930.	E=±4.86 " "
An entirely different sample.	Year 1930.	E=±1.90 " "
Canadian laboratory.	Year 1932.	E=±1.10 " "
U. S. A. laboratory.	Year 1932.	E=±1.17 " "
Canadian laboratory.	Year 1933.	E=±1.48 " "

Valley Beater Test

Maximum Mullen developed. Five pops per sheet. *June* 1927. Sheet errors only. All tests made on stock from one and the same beater run.

Operator	Probable error of test on one sheet ±	Probable error of actual average of two sheets ±	Kind of pulp
A.	1.08 per cent	0.76 per cent	unbleached
B.	1.33 " "	0.94 " "	unbleached
A.	1.15 " "	0.81 " "	bleached
B.	1.77 " "	1.26 " "	bleached

Dec. 1928. Complete tests (including the beater run).
One sheet per point on curve. E=±2.17 per cent
Mean of tests on two sheets per point on curve. E=±1.08 per cent

It is evident that error determinations involve a certain amount of work which many principals in industry

[1] Member TAPPI, chief chemist, Abitibi Power & Paper Co., Smooth Rock Falls, Ontario.

might term "unnecessary work." The technically trained man has not been much encouraged in this class of research work and cannot be blamed for a tendency to refuse to sacrifice himself, by attending to unwanted work in a field of "drudgery." From the above compilation of results it is seen that the depression has not afforded the same opportunity to keep posted on accuracy as the previous period of prosperity did.

I hope that we shall soon see the sentence: "duplicate tests should agree *within* p per cent," substituted with a statement of actually determined probable error or standard error. Such statements ought to be classified into two separate groups:

a. Errors determined in all individual laboratories that aided in adopting the standard method. Results for each laboratory separately.

b. Composite probable error for the general case calculated from all results obtained by approved investigators.

It is often found that an entirely different probable error applies if tests are made all on one and the same day in comparison with tests made all on different days. In most cases the latter determinations show a much larger probable error. This is due to a change in the material. Tests made on different days therefore do include an element of variation in the tested medium.

Naturally the criticized sentence could be retained provided that p per cent had been calculated according to some definite standard. In one of the articles referred to above *(2)* it was pointed out that "maximum error" could be defined either as two times the standard error or three times this error. The usual old way was to consider that few results could fall outside of four times the probable error. Three times the standard error, as defined in the article, is nearly 5 times the probable error. Those that wish to retain the word "within" would therefore have to decide on something in the neighborhood of 4 or 5 times the probable error, which is a plus or minus deviation from a likely true value. This would mean that duplicate determinations *should* agree *within* either 8 or 10 times the probable error. The accuracy would then appear very poor to the uninitiated.

It is far better to discard the word "within" altogether and specify probable error as suggested.

When the probable error is known it is always possible to determine the number of tests that are needed in order to satisfactorily settle a dispute. If the required number of tests would involve an unjustified expenditure, then the commercial custom must be modified so that complaint cannot be made, based on insufficient proof.

I do not wish to publish information regarding the moisture test, although I have data available from work performed by several independent shippers and buyers. There is evidence that dependable workers have to struggle against a tendency of far bigger errors than admitted by authorities. The shipper cannot afford to carry out three or four independent tests on every consignment. Whenever the receiver finds an unusually low test he can recheck himself, if he so pleases, until he is sure of himself. He then makes a complaint and evidently he must win the case as there is a very remote probability of a large positive error in a single test. *(3)*

It is of utmost importance that the real accuracy of the moisture test be officially determined. From this accuracy conclusions can be made regarding the accuracy of the dry weight in the manner indicated by Mr. D. S. Davis. The accuracy of the moisture test cannot be defined as the accuracy indicated by a series of tests performed on one and the same shipment, tested in one and the same place in a given manner. The real weight of the bales is not ascertained because two men can reach the same result under "certain rules of the game." The real accuracy of tests can be determined from agreement between results published by honest sellers and buyers. The criterium of honesty is mathematically definable. In the long run the invoiced weights must give a total in close agreement with the total of the buyers check weights.

Literature Cited

(1) Davis, D. S., "Precision of Measurements." Paper Ind., 505 (Dec., 1933).
(2) Simmonds, F. A., and Doughty, R. H., "Application of Elementary Statistical Methods in the Testing of Pulp and Paper." Paper Trade Journal, 97, 32 (1933).
(3) Kern, H. M., "Fair Play in the Application of Pulp Tests." Paper Trade Journal, (March 28, 1929), page 68.

New TAPPI Members

The Executive Committee of the Technical Association of the Pulp and Paper Industry has announced the following elections to membership:

Harold S. Morse, assistant superintendent technical control, New Brunswick International Paper Company, Dalhousie, N. B. is a 1921 graduate of the Massachusetts Agricultural College. Mr. Morse was formerly with the Great Northern Paper Company, Millinocket, Maine, and was formerly located at the Pyrites, N. Y. mill of the International Paper Company.

Arthur F. Bailey is salesman-demonstrator for E. I. Du Pont de Nemours & Co., Inc., Providence, R. I.

Willard O. Manor, student, Institute of Paper Chemistry, Appleton, Wis., is a 1934 graduate of Lawrence College and was formerly associated with the Consolidated Paper Company, Monroe, Mich.

Ralph N. Prince, chemist, Fort Orange Paper Company, Castleton-on-Hudson, N. Y., is a 1932 graduate of the University of Maine.

Arthur Palmer is a groundwood mill superintendent, Pacific Mills, Ltd., Ocean Falls, B. C., with which company he has been associated since 1920.

Robert D. Rusch, student, Institute of Paper Chemistry, is a 1932 graduate of Lawrence College and was formerly employed by the Kimberly-Clark Company, Neenah, Wis.

Ivan V. Wilson, technical department, Merrimac Chemical Company, Inc., Boston, Mass., is a 1924 graduate of Kansas State College, was formerly chemist for the Cook Paint and Varnish Company, Kansas City, Mo.

Pacific TAPPI to Meet at Seattle

The Pacific Section of the Technical Association of the Pulp and Paper Industry will meet at the New Washington Hotel, Seattle, Wash., on April 6 and 7, 1934.

Kenneth Shibley is the local committee chairman and has arranged an interesting program. Final plans for the International Fall Meeting at Portland, Oregon in September will be made. Lawrence Killam, president of the British Columbia Pulp and Paper Company, is chairman of the TAPPI Pacific Section.

TAPPI Member Writes on Patents

Joseph Rossman, examiner at the United States Patent Office, member of TAPPI and chairman of the Committee on Patents, Copyrights and Trade Marks of the American Association for the Advancement of Science has recently had a bulletin published by that organization, entitled, "The Protection by Patents of Scientific Discoveries." Copies are obtainable from the Science Press, Grand Central Terminal, New York, N. Y., at 50 cents per copy.

A Sizing Test and a Sizing Theory*

By R. M. Cobb[1] and Donald V. Lowe[2]

Abstract

A method for testing the liquid resistance of papers is outlined. The test determines the amount of liquid absorbed in a given time. It is applicable to specimens that vary in thickness, and is particularly useful on all heavy stock, on hard-sized light stock, and for sizing research on hand made sheets.

By means of this test the limited effectiveness of sizing is determined.

The difference between surface sizing and interior sizing is shown to be due in part to difference in energy release.

Basic Principles of Sizing Tests

Methods for determining the sizing of paper rather universally use time as the gauge by which degree of sizing is measured. The degree of penetration is fixed, and the time for attaining that penetration is found.

In actual use, the time to which paper is subjected to penetration is often fixed, and the degree of penetration in that fixed time varies in accord with the sizing. It is the degree of penetration in a fixed time which indicates that the paper has been satisfactorily or unsatisfactorily sized. In coating work, for instance, the coating side is in contact with a fluid medium for 30 to 120 seconds only. Obviously a test which indicates that water will go entirely through a 0.030-inch sheet of boxboard in 45 minutes may have little bearing on the moisture absorption of 0.005-inch liner alone in its 30 seconds exposure to casein vehicle.

Furthermore, the time necessary for partial penetration of stock by liquid, as for example the time required for liquid to penetrate 0.001 inch, is often more important and significant than the time for complete penetration of the stock.

Standard Sizing Test

The Carson *(4)* sizing test as modified by the T.A.P.P.I. Paper Testing Committee and drawn up in T433m *(8)* has proven so successful and has so thoroughly met the need for a standardized sizing test, that presentation of another method must be prefaced with a sort of apology. But there is a further need for a test applicable to heavy stock, to samples which vary in gauge, and to material so hard-sized that the use of time as a gauge is either inaccurate or impractical.

Surface Sizing Test

To fill the need of a test independent of gauge, for mill sizing control on coating stock we have developed a surface sizing test employing 2 per cent soluble oil solution, briefly described elsewhere by Cobb *(5)*. The method has proven satisfactory in rapid control work in two mills over an eight year period, but can not be readily standardized for general use.

New Test for Liquid Resistance of Paper

For a more reliable research and investigational tool, a test has been designed which reverses the usual test procedure. The sample is wet for a definite time and the amount of absorption of liquid determined gravimetrically. From these results the equivalent depth of penetration in known time can be calculated.

Received January 9, 1934.

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 19 to 22, 1934.

[1] Member TAPPI, chemist in charge research laboratory, Lowe Paper Company, Ridgefield, N. J.

[2] Member TAPPI, vice-president, Lowe Paper Company, Ridgefield, N. J.

Details of the Test

Apparatus (Fig. 4)

(1) Brass rings, 10 cm. inside diameter, 7.5 cm. high, 0.6 cm. thick have been used but any size down to 2 cm. diameter may be successfully employed.
(2) Flat plates, 15 x 15 x 0.5 cm.
(3) Felts 14 x 14 cm.
(4) Clamps for holding the rings. Rods 10 cm. high. Crossbar 17 x 2.5 cm., notched at one end. Wing nuts.
(5) Balance, sensitive to 0.005 gram. In case of small samples, an analytical balance sensitive to 0.5 mg. is employed.
(6) Stopwatch with an accuracy of 0.5 seconds or better in 5 minutes.
(7) Soft cloths, blotters, and sponges.
(8) 100-cc. graduate.

Reagents

(1) Tap water.
(2) 2 per cent sulphonated castor oil solution. This is made by diluting 20 grams of Nopco Castor L (National Oil Products Company) with distilled water to a total of 1,000 grams of solution.
(3) Coating colors—40 per cent solids.
(4) Yarmor pine oil (Hercules Powder Company).
(5) Waterman's blue-black writing ink.

Test Specimen

Unblemished specimens are cut square, 12 cm. on edge, or smaller if only small areas are available for test. (The results reported here were obtained on two 0.0195 inch boxboards, both made from the same beater of stock, sized with 1 and 4 per cent rosin.)

Procedure

The tests are made on paper conditioned at 65 per cent r. h. The cut and conditioned samples are weighed to the nearest 0.01 gram. A dry felt is placed on the plate and the weighed specimen is laid on the felt with the test side up. The ring is placed on the sample and clamped down. 100 cc. of liquid for the test are poured on. Then 10 seconds before the test time elapses, the liquid is poured off; the clamps are loosened; the ring is quickly removed, at the expiration of the specified time; the excess liquid is blotted up by a cloth, *without rubbing* or *spreading*, so that only a dull surface shows.

The samples are immediately weighed to the nearest 0.01 gram, and the diameter of the tested area measured to 0.1 cm. The difference in weight before and after testing gives the absorption of liquid over the test area.

Report

The simplest significant way to express results is in grams absorbed per cm^2., or cc. absorbed per cm.^{2}

For study of penetration, it is necessary to take into account both the voids in the stock and the degree of swelling induced by the liquid.

To obtain the penetration factor, the per cent swelling during the test, and the per cent voids in the sample must be determined. The per cent swelling is obtained by allowing the stock to become saturated with the liquid and measuring the increase in length and in caliper, or by weighing a swollen sample. Voids are determined by the ordinary method, saturating the stock with a non-swelling liquid.

Let

V_1 = original volume of sample
V_2 = final volume of sample
T_2 = final thickness of sample
A_2 = final area of top of sample
S = solid fraction of sample
V_{H_2O} = volume of water in V_2
F = penetration factor

Then $V_{H_2O} = V_2 - V_1 S$

$$T_2 = \frac{V_2}{A_2}$$

$$F = \frac{T_2}{V_{H_2O}}$$

Example: A sample of boxboard swells 45.6 per cent in volume, 4 per cent extension being in the cross grain direction. It has .65 per cent solids.

Then

$$V_{H_2O} = V_2 - V_1 S = 1.456 - 1 \times .65 = .806$$

$$T_2 = \frac{V_2}{A_2} = \frac{1.456}{1.04} = 1.40$$

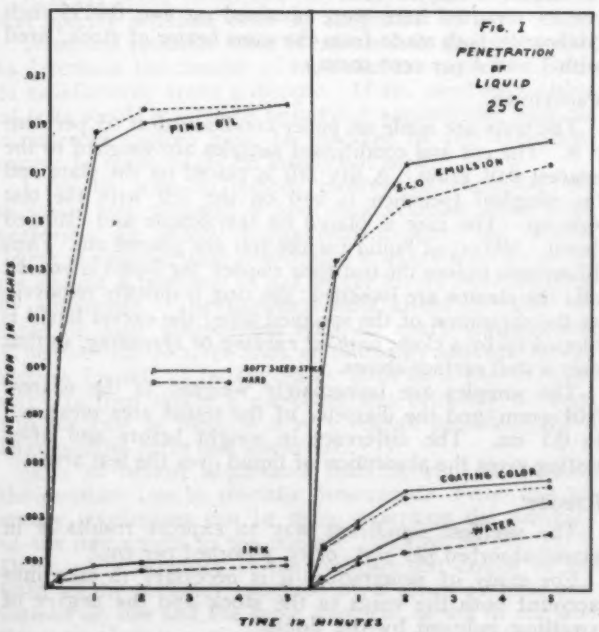
$$F = \frac{T_2}{V_{H_2O}} = \frac{1.40}{.806} = 1.735$$

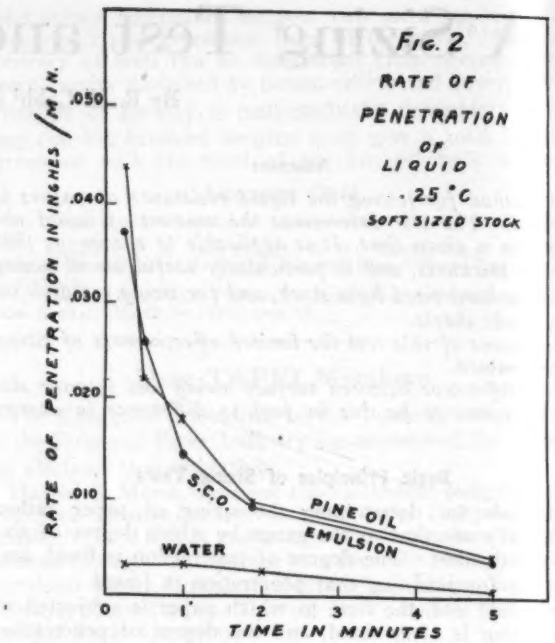
Every cc. of liquid absorbed per cm² will therefore penetrate 1.735 cm. into the stock. 1.735 is the Penetration Factor.

Factors Influencing Test

Temperature difference of 5 deg. C. does not have much effect at room temperatures of 20 to 25 degrees. The test should be carried out within those limits.

Variations in head between 0.25 cm. and 6.0 cm. are without effect. Rheological considerations are important. According to Herschel *(6)* the flow rate for liquids feeding from a reservoir under a constant applied pressure into an empty capillary decreases continually as the capillary fills. (See Fig. 2.)





When the pressure is low, interfacial tension effects are important.

Rate of flow varies as the first power of the capillary diameters.

Increase in viscosity of the liquid decreases the rate of flow.

The effect of time on rate of penetration by testing medium is shown in Fig. 2. The marked differences between the penetration of water and materials with a lower contact angle than water are shown in Fig. 1.

Discussion of Method

Advantages

Certainty of endpoint, ready duplicability, and completion of test in reasonable and definite time. When testing an area of 78.5 cm.² duplicate samples check within 0.01 gram for absorptions of from 0.04 to 0.50 gram.

Flexibility of test. Liquids used, temperature, and sample thickness may be varied and the liquid resistance of all or part of a stock (vertically considered) may be determined. 50-pound stock may be compared directly with 300-pound stock by this method.

The effect of minor undetectable blemishes in the paper is minimized, as the weight of liquid seeping through these blemishes is divided by the area in getting the results. (With visual endpoints, leakage even in minute quantities throws out a test.)

Hand made sheets may be given significant tests even though they vary slightly in gage.

Disadvantages

Constant attention must be given test.

Manipulation requires care and reasonably good technique.

Test can not be readily applied to light absorbent stock that soaks through in less than 15 seconds.

Sizing Principles Studied by Test

Significance of Results

From the data presented in Figs. 1 and 2, and examina-

tion of the test specimens, several conclusions may be drawn.

Rosin size increases the resistance of boxboard to water, ink, and coatings; these liquids give a high contact angle against paper.

Rosin size does *not* increase the resistance of such stock to liquids of low or zero contact angle, being especially ineffectual during the early stages of contact between paper and wetting agents such as pine oil and sulphonated oil emulsions.

For water, ink, and coating color, the true penetration seems to agree with the apparent penetration as calculated from the weight of liquid absorbed. Liquids of high contact angle apparently saturate as they penetrate.

Pine oil gets all through the 0.0195-inch samples while the penetration calculated from weight absorbed amounts to only 0.0115-inch. Traces of sulphonated oil emulsion come through the 0.0195-inch samples when the calculated penetration is only 0.016-inch. Liquids of low contact angle apparently flow along the larger pores at a rapid rate; and though saturation is not slow it follows at a more seemly pace.

The ineffectiveness of rosin size against liquids of zero contact angle helps substantiate the theory that the role of interior sizing in reducing penetration by liquids is to raise the liquid-fiber contact angle, and not to plug up the pores. (The primary evidence for this theory is the fact, stated by Sutermeister, *(7)* that interior sizing does not decrease sheet porosity.)

When the angle of contact (Fig. 3) between fiber and liquid becomes zero, rosin sizing becomes ineffective. Then the penetration by a liquid becomes proportional to its surface tension and the available capillarity. The ***higher*** the surface tension of a liquid that takes zero angle of contact against fiber, the ***greater*** its penetrating power. The mathematics of interior sizing are really covered by Washburn's equation *(9)* for penetration into a horizontal capillary:

$$\frac{dl}{dt} = \frac{r\ \sigma\ \text{Cos}\ \theta}{\eta\ 4\ l}$$ where

$\frac{dl}{dt}$ = rate of penetration of liquid.
r = radius of capillaries or pores.
σ = surface tension of liquid.
θ = angle of contact between liquid and solid
η = viscosity of liquid.
l = depth of liquid penetration.

Surface Sizing vs. Interior Sizing

It is a generally accepted fact that surface sizing often differs greatly from interior sizing. The average ink film deposited on paper by the printing press is 0.00010 to 0.00035-inch thick. The depth of penetration by the vehicle into the paper is probably of the same order

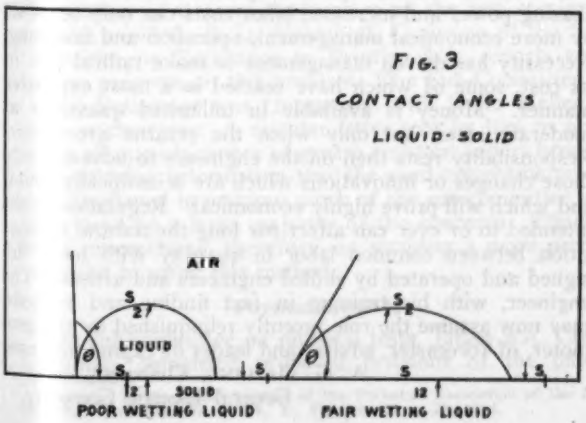


FIG. 3
CONTACT ANGLES
LIQUID-SOLID

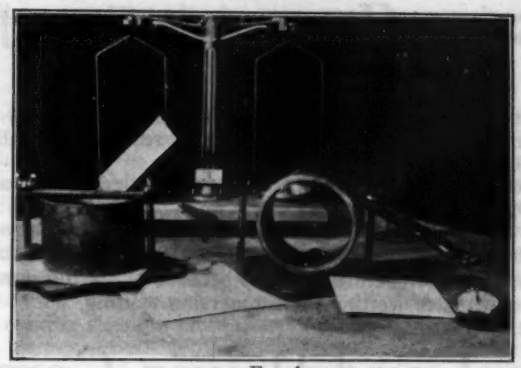


FIG. 4
Apparatus for Sizing Test

of magnitude—say from 1 to 7 microns, making such penetration a real surface phenomenon. Writing ink penetration runs close to oily ink penetration, and is similarly governed.

Tests indicating degree of surface sizing may differ from these indicating interior sizing for at least three reasons.

(1) In drying the paper a sizing film markedly different from the interior film in magnitude, regularity, and orientation is brought to the surface.

(2) Capillary flow along the fibers differs from flow down past them. (Doubtful.)

(3) The energetics of disposition of a thin film of liquid upon the surface, as in writing or printing differ from the energetics of penetraion of liquid from a reservoir—which last is the principle employed in the sizing test described above.

Immersion and Spreading Wetting

A. Immersion Wetting. Penetration of liquid into paper from a reservoir is, according to Bulkley, *(3)* a special form of immersion wetting. Bartell's *(2)* expression for immersion wetting

$$\Delta S_{EI} = S_1 - S_{12} = \text{Cos}\ \theta\ S_2 \qquad (A)$$

Where
ΔS_{EI} = change in surface energy during immersion wetting.
S_1 = solid-air interfacial tension. (Fig. 3.)
S_{12} = solid-liquid interfacial tension.
Cos θ = Cosine angle of contact θ.
S_2 = liquid-air interfacial tension.

indicates that immersion wetting is governed by the product of the cosine of the solid-liquid contact angle times the surface tension.

In immersion wetting solid-air interface S_1 disappears and solid-liquid interface S_{12} appears.

B. Spreading Wetting: When a thin film of ink is deposited upon a paper surface

Solid-air interface S_1 disappears.
Solid-liquid interface S_{12} appears.
Liquid-air interface S_2 appears.

$$\Delta S_{ES} = S_1 - S_{12} - S_2 = \text{Cos}\ \theta\ S_2 - S_2 \qquad (B)$$

which is the equation for spreading wetting.

Then, from A and B

$$\Delta S_{EI} = \Delta S_{ES} + S_2 \qquad (C)$$

or, other things being equal, the tendency for a liquid to wet in a film on the surface of the paper differs from, and is less than, its tendency when fed from a reservoir to wet by penetration into the interior of the paper.

Further Work on Test

As developed for use on boxboard, the test described above is still in the awkward stage. Modification of the apparatus, as by substitution of the Abrams *(1)* penescope

for the clamps and rings, may make the test more readily adaptable for sizing studies on fine paper.

Conclusions

The sizing test which has been described lends itself to certain studies in fluid penetration not readily obtainable by other means.

Interior sizing is effective only against liquids of poor wetting properties.

Surface sizing seems to differ from interior sizing not only because of a difference in protective film at the surface and sheet structure, but also because of the difference between surface wetting and immersion wetting.

Acknowledgment

The authors wish to express their appreciation of the interest and help given by W. H. Herschel, Rheologist of the U. S. Bureau of Standards, Washington, D. C., and N. I. Bearse, Lowe Paper Company.

Literature Cited

(1) Abrams, A., Paper Trade J. 84, No. 3: 44 (Jan. 20, 1927).
(2) Bartell, F. E., et al., Colloid Sym. Monograph IV: 234 (1926) and V: 113 (1927).
(3) Bulkley, R., Personal Communication (1933).
(4) Carson, F. I., Paper Trade J. 80, 60. 10: 59 (March 5, 1925).
(5) Cobb, R. M., Tech. Assoc. Papers XIII: 41 (1930).
(6) Herschel, W. H., Personal communication (1934).
(7) Sutermeister, E., Personal communication (1933).
(8) Tentative Standard T433 m, TAPPI Standards (1933).
(9) Washburn, E. W. Phys. Rev. 17:273 (1921).

Heat and Power Committee Progress Report*

Despite adverse conditions, including loss of committee members, a considerable portion of the program outlined for the year has been successfully completed. It is particularly gratifying to note that, by scientific engineering, economies in operation are sufficiently attractive in many cases to warrant expenditures of large sums for capital investment of an engineering nature. Labor and material expenses have not been amenable to sufficient reductions in all cases to eliminate consideration of heat and power supply and utilization.

The year's work of the four subcommittees is summarized as follows:

Production and Transmission of Heat and Power
S. A. Staege, Chairman

The Standard Power Plant and Comparison Report Forms, tentatively adopted at last year's meeting, have been submitted again for formal adoption after being rearranged to put the material in more usable shape. These are to be sent out by the Secretary for vote on adoption by the association membership. The committee is preparing a brief statement of the purpose of the forms and terms used therein.

Steam and power generation advancement is again to be reviewed at this year's meeting by a representative of a prominent firm of consulting engineers.

Cooperation with the power utilities is being fostered by having a representative of the Edison Electric Institute Committee on "Relations and Arrangements with Industry" speak at the Annual Meeting. Theirs is a new committee added this year. It is hoped that establishment of a close relationship between the two organizations will promote a better understanding of mutual problems from which benefits to both parties will accrue.

Papers are also being presented on switchgear developments and economical generation of steam in industrial plants.

Heat Utilization in Chemical Processes
Wm. T. Webster, Chairman

Questionnaires have been approved by the committee and issued by the Secretary on heat utilization in alkaline pulp and sulphite pulp cooking. The authors are to be congratulated on the concentrated form which simultaneously embodies the essential points required to obtain a comprehensive view of the practices in common use. Cooperation of the membership is solicited in order that the valuable data submitted may be made available.

A contribution to the annual meeting in the form of a paper on aluminum foil for heat insulation has been made.

Heat Utilization in Pulp Drying and in Making Paper and Paper Board
A. E. Montgomery, Chairman

The association is again indebted to F. W. Adams of M.I.T. and the committee of which he is a member for the able presentation of another phase of paper drying, entitled "The Rate of Drying of Newsprint." This comprises the report of the committee as well as its contribution to the annual meeting.

Power and Lighting Requirements
Reginald Trautschold, Chairman

Advancements and variations in the application of fundamental principles of lighting are reported by means of a paper on modern practice in pulp and paper mill illumination.

The recent modifications to and expansion of one of the larger southern mills provided the opportunity for improvements to older methods. Some of these are reported in a paper on auxiliary drive for cylinder machines.

Considerable advance has been made by the committee in collecting and tabulating their report on power requirements. Much of this work must be done by individual effort as committee meetings are difficult to obtain. The work will be continued during the year.

Mechanical power transmission from motor drive to industry is the subject of another paper contributed for the annual meeting.

General

The Report of development along the general lines of Heat and Power is again presented, although considerably curtailed by lack of committee man power and dearth of developments. What the engineers require now to show their skill are outlets for their products. Lowered purchasing power and increased labor costs can only be offset by more economical management, operation and financing. Necessity has driven management to make radical cuts in its cost, some of which have reacted in a most expensive manner. Money is available in unlimited quantities at moderate rates, but only when the returns are secure. Responsibility rests then on the engineers to advance only those changes or innovations which are scientifically sound and which will prove highly economical. Regulation is not intended to or ever can affect for long the natural competition between common labor in quantity with tools, designed and operated by skilled engineers and artisans. The engineer, with his training in fact finding and analysis, may now assume the role recently relinquished by the promoter, of forecaster, adviser and leader of capital interests.

A. G. DARLING, Chairman,
General Electric Company.

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 19 to 22, 1934.

Paper Testing Committee Progress Report*

General Status of Activities

Methods for ink absorption of blotting paper, water absorption of bibulous paper such as toweling, and water resistance of papers having a medium degree of resistance, were submitted for association vote on adoption. Revisions of the present methods for amount of mineral coating, alpha cellulose, and copper number, and a new method for determination of acid-soluble iron, were completed by the committee and forwarded for publication as tentative methods. The method for mineral coating was revised to provide for use of trypsin to loosen the coating, as suggested by Sutermeister and Porter, because this is effective in removing very resistant coatings. Changes were made in the alpha cellulose and copper number methods to increase their scope to include lignified fibers, and in the case of the copper number method to provide for higher values, as this has been found necessary by further experience in using the test.

The further development of methods for resistance of soap wrapping paper to discoloration, and the resistance of butcher's wrapping paper to blood, was turned over to the Use Requirements Committee, since these tests are for specific papers.

Microscopy

Study of the development of fiber weight factors for analysis of fiber mixtures, by the Sub-Committee on Microscopic Testing, J. B. Calkin, Chairman, is still in progress. The chairman prepared a proposed revision of the section "Microscopical Examination", in Paper Testing Methods. This includes much additional information which will be of value in revision of the official method. He also secured the services of J. W. Perry for translation of foreign articles dealing with microscopic testing. Mr. Calkin is collaborating with C. J. West in the preparation of an extensive bibliography on the microscopy of paper. Important problems that should be studied are the many stains for fiber differentiation mentioned in the literature, measurement of fiber dimensions, and strength of single fibers, but these all require systematic research for which the committee has no facilities.

Permeability

Round-robin trial of tentative water-resistance testing procedures, under the direction of P. F. Codwise, is still in progress. As these procedures are for very resistant papers and boards, the problem is complicaetd by the slow permeation of water. Lateral permeation of moisture and evaporation of it from the surface of the test specimens must be avoided. B. L. Wehmhoff, Chairman of the Sub-Committee on Resistance to Printing Ink, reports some further progress on this problem. The Sub-Committee on Grease Resistance was reorganized with H. L. Mellen as the new chairman. A circular letter sent by him to practically all manufacturers of grease resistant papers brought the gratifying information that the sand-turpentine procedure developed in previous work of the sub-committee was being used by a large majority of the concerns. Effort is being concentrated, therefore, on securing a more precise end-point in using this method.

Physical Methods

The sub-committee on physical tests, James d'A. Clark, Chairman, completed proposed revisions of the official methods for sampling, conditioning, basis weight, and tensile strength. A new provision for sampling cases of paper should lead to more representative samples. Important changes in the method for conditioning were an addition to eliminate the hysteresis in the equilibrium moisture content caused by difference in direction of approach to this condition, and reduction of permissible variation in temperature to plus or minus 3 deg. C. Several changes in the calibration and testing procedures of the present tensile breaking strength method were proposed to secure greater accuracy. Considerable additional general information was prepared for inclusion in most of these methods.

Changes in the methods for bursting strength, tearing strength, and formulation of a method for stretch are under consideration. The methods for folding endurance and thickness are being held until expected additional information on them becomes available.

Review of recent literature shows that considerable information has been developed by different investigators, on means of measuring dirt, thickness, stiffness, gloss, smoothness, opacity, and color. Cooperative testing of procedures recommended for dirt is desirable and the chairman would be glad to hear from volunteers for such work. The other methods require study of instruments in a scientific laboratory to find their degree of precision, applicability, and practicability. Only limited facilities are available to the Paper Testing Committee at present for such work. The Bureau of Standards and an opacity tester manufacturer are making some cooperative study in the direction of modification of the present official type of tester to secure greater accuracy in the opacity test.

Chemical Methods

The Sub-Committee on Chemical Methods, under the direction of P. F. Wehmer, gave attention to revisions of several official methods and continued its study for development of a method for pH value of water extract of paper. To overcome uneven staining of the lead acetate test paper in the determination of active sulphur, the committee recommends boiling the paper-zinc-acid mixture for 15 minutes. The apparatus must be modified to include an 8-inch condenser just below the ground glass flanges holding the lead acetate test paper. Users of the present qualitative method for starch found that small amounts, around 0.1 per cent, were not detected in heavy papers and boards, and the committee recommends the use of a larger sample, about 6 inches square. The presence of zinc sulphide in paper as an opacifier was found to seriously affect the test results for acidity, copper number and alpha cellulose. The acidity values are reduced, while both the copper number and alpha cellulose values are increased. Tests of a rag paper containing no other loading material showed that the addition of 4 per cent by weight of zinc sulphide decreased the total acidity from 0.050 to 0.003; increased the copper number from 0.90 to 1.50, and increased the alpha cellulose from 90.5 to 93.0. It seems necessary, therefore, to limit the scope of these methods to papers free from zinc sulphide, until satisfactory modifications can be evolved to take care of this complication.

The formulation of tentative methods for zinc sulphide pigments and titanium pigments should be possible in the near future.

B. W. Scribner, Chairman
Bureau of Standards, Washington, D. C.

*Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 19 to 22, 1934.

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Analytical and Testing Methods

Laboratory Analysis of Fibrous Materials. F. Bridge. World's Paper Trade Rev. 99: 1108, 1110, 1144, 1146 (April 14, 1933); Paper Maker & Brit. Paper Trade J. 85: TS94-96 (April, 1933).—A discussion of the significance of alcohol-ether extract, lignin, loss on alkaline hydrolysis, cellulose, copper number and furfural yield determinations in pulp and paper. Overbleaching and decomposition of cellulose by heat are stated not to increase appreciably the yield of furfural.—A. P.-C.

Effect of Relative Humidity On the Moisture Content and Bursting Strength of Four Container Boards. C. O. Seborg, R. H. Doughty and P. K. Baird. Paper Trade J. 97, No. 15: 37-42 (Oct. 12, 1933).—The effect of relative humidity in the range from 0 to 97 per cent on the moisture content and Mullen test of 4 commercial container boards is shown and discussed.—A. P.-C.

Testing of Filter Paper. Paper-Ztg. 58, No. 58: 963-964 (July 22, 1933).—Three simple and rapid methods which do not involve any complicated apparatus for testing the strength, rate of filtration and separating capacity of the filter paper are described.—C. J. W.

Dusting of News Print Paper. S. Samuelsen and E. Stephansen. Papir-J. 21, No. 10: 97-99 (June 30, 1933).—The dusting of news print paper can, in general, be traced back to three main reasons: to the quality of the raw materials, especially filler and woodpulp, to incorrect, i.e., too much drying upon the first cylinder, which is the most common reason for the fluffing trouble, and to woolen felts of poor quality in the papermaking machine which deposits wool fibers upon the paper web. This latest type of dusting is, however, not very frequent. An apparatus in use in the Norwegian Paper Research Laboratory at Oslo for detecting whether a paper will fluff or not is described. It consists of an arrangement for photographing the two surfaces of a paper strip; a good quality of news print appears quite smooth in the copies, while poorer qualities show a number of more or less protruding fibers.—C. J. W.

Effect of Moisture and Temperature on the Strength and Elasticity of Paper. A. Basberg. Papir-J. 21, No. 11: 103-105; No. 12: 114-117; No. 13: 123-126; No. 14: 136-139 (July 6, 25, 31, Aug. 11, 1933).—The strength of paper rises as the temperature is increased up to 50 deg. C. Above this temperature, the strength decreases. Likewise, maximum strength is obtained at a temperature of 20 deg. C. when the moisture content of the paper is ½ per cent. Elasticity decreases with rising temperature. Papers exposed to elevated temperatures for long periods will not return to the same moisture content as was the case prior to heating; the higher the temperature of heating, the less moisture is reabsorbed. The X-ray diagram of paper heated to 130-135 deg. C. is unchanged, which indicates that the micelle structure of the fiber has not been changed. The author believes that the strength of the sheet is related to the attraction of fiber or micelle surface for the water film surounding the fiber or micelles, that is, that electric surface potentials are involved.—C. J. W.

Porosity Tester. Willard L. Egy assignor to W. and L. E. Gurley. U. S. pat. 1,905,270 (April 25, 1933).—This is an improvement to Gallagher et al.'s U. S. pat. 1,538,793, of May 19, 1925. The clamping means are located in the base of the instrument so that the specimen is not carried by the weighted bell and therefore does not introduce a disturbing factor in the weight of the bell.—A. P.-C.

Apparatus For the Control of the Properties of Solid Bodies Dispersed in a Liquid. Hellmuth Müller-Clemm assignor to Zellstofffabrik Waldhof. U. S. pat. 1,902,659 (March 21, 1933).—In order to be able to examine the condition of a suspension of solids in a liquid (*e.g.*, pulp, size, etc.) a portion of the stream of liquid is passed continuously in a thin layer through a chamber having a transparent front wall and a transparent or translucent back wall, behind which is mounted a light. The chamber is made sufficiently wide to reduce the velocity of the stream, so that impurities can readily be seen.—A. P.-C.

Some Useful Color Reactions. C. Brown. World's Paper Trade Rev. Tech Conv. No.: 28, 30 (March, 1933); Paper Maker & Brit. Paper Trade J. 85: TS105 (May, 1933).—Sensitive color reactions for the detection of traces of iron, copper, magnesium, zinc, aluminum, chromium, rosin, formaldehyde, sulphur, sulphites and free chlorine in paper, are briefly indicated.—A. P.-C.

Commercial Evaluation of Pulp Cord-Wood. M. A. Youtz and B. E. Lauer. Paper Trade J. 97, No. 12: 38-40 (Sept. 21, 1933).—Two methods are described for the determination of the volume of wood per cord and the dry wood density per cu. ft.—A. P.-C.

Seibert's Microprojectors. A. Colin-Ross. World's Paper Trade Rev. Tech. Conv. No.:75-80 (March, 1933).—A detailed description of the construction and proper method of using the Promar and Promi microprojectors.—A. P.-C.

Light Sensitive Control in the Paper Industry. J. V. Alfriend and R. R. Baker. Paper Ind. 15: 140-141 (June, 1933).—A description of two systems (balanced bridge arrangement and null method) worked out by the Westinghouse Electric and Manufacturing Co., making use of photo-electric means for the automatic measurement and control of the hydrogen-ion concentration of clear solutions, and suitable for use in the pulp and paper industry.—A. P.-C.

One Per Cent Caustic Soda Solubility of Wood. Anon. Paper Trade J. 97, No. 3: 38 (July 20, 1933).—A description of the tentative standard TAPPI method.—A. P.-C.

Rapid Method For Passing From Hydrogen-Ion Conception to pH. M. Déribéré. Papeterie 55:673-678 (July 10, 1933).—The value of pH corresponding to a given hydrogen-ion concentration (cH) is readily obtained by constructing a curve in which $cH = yx10^{-x}$ and $pH = n + x$. The principal colorimetric and potentiometric of determining pH are briefly outlined.—A. P.-C.

Tests For Cellulose. W. M. Billing. Plastic Prod-

ucts 9: 139-141 (1933).—Methods for determining the cuprammonium viscosity, caustic-soda solubility, ash, ether soluble, and sulphuric acid insoluble contents of cellulose are given in detail.—A. P.-C.

Analysis of Alpha-Cellulose. W. M. Billing. Plastic Products 9, No. 7. 277 (Sept., 1933).—The method given is T203 of TAPPI with minor changes.—C. J. W.

The Detection of Oxidized Cellulose. Haller,—, and F. Lorenz. Melliand Textilber. 14, No. 9: 449-452 (Sept., 1933).—The authors have developed a new qualitative test for the presence of oxy-cellulose, using lead acetate and cochineal. The samples were degraded with sodium hypochlorite, impregnated with lead acetate, washed thoroughly and placed in a suspension of cochineal. A change of the color of the indicator from red to blue indicated the presence of oxycellulose. The divalent lead is said to unite directly with the carboxyl groups of the oxycellulose and remain adsorbed on the fibers. Cochineal changes from red to blue in the presence of traces of lead. Stannous chloride was also used in a similar manner.—C. J. W.

Glass Spheres For Viscosity Determination of Cuprammonium Solutions of Cellulose. L. S. Grant, Jr., and W. M. Billing. Ind. Eng. Chem. (Analyt. Ed.) 5: 270-271 (July 15, 1933).—It is possible and feasible to prepare, from beads having varying specific gravities, large quantities of beads all of which have the same time of fall through standard castor oil. Beads thus prepared will will give just as accurate results as individually calibrated beads and after the selection of a standard bead, viscosity results may be reported in seconds or poises with equal accuracy.—A. P.-C.

Weighing, Sampling and Testing Wood Pulp For Moisture. Anon. Paper Trade J. 97, No. 2: 41-43 (July 13, 1933).—A description of the tentative revised standard TAPPI method.—A. P.-C.

Pulp Testing Developments in 1932. Donald E. Cable. TAPPI Papers 16:322-326 (June, 1933); Paper Trade J. 97, No. 1: 32-36 (July 6, 1933).—References are listed of 93 articles relating to chemical, physical or physical chemical tests for pulp characteristics, published during 1932, and the significance of those considered most important is pointed out.—A. P.-C.

Proposed Method For the Dirt Count of Pulp and Paper. F. A. Simmonds, P. S. Billington and P. K. Baird. TAPPI Papers 16: 288-290 (June, 1933); Paper Trade J. 97, No. 4: 40-42 (July 27, 1933).—A description of the methods used at the U. S. Forest Products Laboratory for determining the dirt count of pulp and paper, which embody the most desirable features of various methods obtained by the Laboratory by private correspondence.—A. P.-C.

The Surface Porosity of Paper as a Measure of Finish. John Campbell and Ralph A. Masten. Paper Trade J. 96, No. 23; 39-40 (June 8, 1933).—A description of a device designed to measure the surface porosity of paper and thereby obtain an indication of its degree of finish.—A. P.-C.

One Per Cent Caustic Soda Solubility of Pulp. Anon. Paper Trade J. 96, No. 26: 35 (June 29, 1933).—A description of the tentative standard TAPPI method.—A.P.-C.

Comments On The Noll Method For the Determination of Lignin in Pulps. Harry F. Lewis, Wilber E. Koonce and George H. Young. Paper Trade J. 96, No. 26: 32-35 (June 29, 1933).—Comparative lignin determinations carried out on a number of experimental pulps and two commercial pulps by the Forest Products Lab. method and the Noll method showed that the latter gave fairly satisfactory results on experimental sulphites, wide variations in duplicate determinations on aspen soda pulp, and only partially satisfactory results on the commercial pulps.—A. P.-C.

Drying

Seal For Vacuum Paper Driers. Bernard A. Malkin assignor to Dominion Engineering Works, Ltd. U. S. pat. 1,915,432 (June 27, 1933).—Suitable castings are mounted close to the surfaces of the rolls between which the paper passes into or out of the drying chamber. The castings are cored out to provide a series of continuous parallel chambers extending both longitudinally and circumferentially with respect to the exposed surfaces of the rolls and some of the chambers are connected to vacuum.—A. P.-C.

Paper Making Machine and Method. Ralph H. Kruse assignor to The Cambridge Instrument Co. U. S. pat. 1,926,292 (Sept. 12, 1933).—The heat of the drier rolls is maintained constant and the speed is regulated according to the moisture content of the sheet.—A. P.-C.

Vacuum Seal For Driers. Andrew N. Russell assignor to Dominion Engineering Works. U. S. pat. 1,924,883 (Aug. 29, 1933).—In vacuum paper driers a sealing member is arranged adjacent to each of the rolls between which the paper passes into or out of the vacuum chamber. The surface of the sealing member which is facing the roll is grooved to retard leakage of air. One roll (of each pair) and its associated sealing member are mounted for unitary movement relative to the companion roll.—A. P.-C.

Heated Die For Drying Fiber Board. George J. Manson. U. S. pat. 1,924,409 (Aug. 29, 1933).—The back of the die is recessed to receive a metal insert containing an electric heating element shaped according to the shape of the article to be dried.—A. P.-C.

Drying Freshly Formed Fiber Board. Treadway B. Munroe assignor to The Celotex Co. U. S. pat. 1,909,213 (May 16, 1933).—After partial drying by contact of all surfaces with a heated gas the material is pressed between heated platens or the like.—A. P.-C.

Moisture Indicator For Pulp Driers and Paper Machines. Torsten Kalle U. S. pat. 1,903,716 (April 11, 1933).—The invention is based on the fact that the resistance to bending of a sheet of paper of given thickness depends on its moisture content. At a suitable point on the paper or pulp machine the sheet is passed between two small corrugated rolls. The depth of the bends or corrugations produced in the sheet is measured by measuring the distance between the rolls and the moisture content is deduced therefrom.—A. P.-C.

Specialties

Preparation of Carbon Paper. Papier-Ztg. 58, No. 40: 676-679 (May 20, 1933).—Description of the various types of carbon papers, raw materials used and requirements of a good grade of carbon paper. A description is also given of the coating mass and its method of application. Illustrations are included of a few of the more popular carbon paper coating machines.—C. J. W.

Production of Lithographic Paper. G. S. Tzuipkin. Bumazhnaya Prom. 12 No. 2-3: 41-42 (1933).—Discussion.—C. J. W.

Artificial Fiber as Reinforcement of Artificial Leather. L. Geisser. Kunststoffe 23, No. 8: 187-188 (Aug. 1933).—Ordinary rayon has not sufficient strength to serve as base for artificial leather, oilcloth and such like. A special fiber, manufactured according to British Patent 274,521 and several additional patents, has proved exceedingly suitable for this purpose and excellent results have been obtained.—C. J. W.

Wrapping Paper. C. J. J. Fox. World's Paper Trade Rev. 100: 743-746, 786-790 (Sept. 8, 1933).—A general discussion of the qualities and manufacture of wrapping papers used for various purposes.—A. P.-C.

Fire-Resistant Pulp Board. Herbert L. Becher assignor to The Agasote Millboard Co. U. S. pat. 1,907,711 (May 9, 1933).—Pulp board is formed comprising individual fibers which are coated with aluminum hydroxide and bentonite.—A. P.-C.

Fire-Resistant Fiberboard. Isidor Kitsee assignor to Mineralite Corp. U. S. pat. 1,910,469 (May 23, 1933).—Wood fiber is saturated with 10 per cent caustic soda solution and the treated fibers, together with mineral wool fibers are introduced into a body of a carrier liquid such as water and agitated to bring the fibers into suspension (the mineral wool fiber comprising 50 to 90 per cent of the total fiber in the suspension) and a product such as fiberboard or the like is then formed from the suspension.—A. P.-C.

Drinking Tubes. Friedrich K. Wickel and Wickel & Co. Kommanditges. Brit. pat. 376,260 (March 30, 1931).—Drinking tubes are made of waterproof paper, *e.g.*, highly calendered sulphite pulp paper, which is coated on both sides with a condensate formed from carbamide and formaldehyde and subsequently hardened.—A. P.-C.

Method of and Machine For Making Pulp Rovings. Milton O. Schur and William B. Meglitz assignors to Brown Co. U. S. pat. 1,910,407 (May 23, 1933).—The pulp is formed into interfelted strips on an endless travelling wire, and while the strips are still moist they are frictionally engaged by a roll, the axis of which is inclined to the direction of travel of the endless wire.—A. P.-C.

Molded Products From Paper and Fibrous Materials. Cie Francaise pour l'Exploitation des Procédés Thomson-Houston. Fr. pat. 741,826.—A paper reinforced with a coarse textile fabric is impregnated with aqueous solutions or pseudo-solutions of synthetic resins.—A. P.-C.

Molded Pulp Article. Richard E. Hall assignor to Arvey Manufacturing Co. U. S. pat. 1,907,795 (May 9, 1933).—A molded pulp article having a relatively restricted section intermediate its height is formed by depositing the pulp on a mold formed in two pieces which are joined at the point of least cross section, and removing the mold by separating the two pieces.—A. P.-C.

Curling and Waving of Papers. D. Roberts. Pulp Paper Can. 34: 461-463 (July, 1933).—Experiments on the curling and waving of paper subjected to changes in humidity conditions are described; but no conclusions could be drawn from the results.—A. P.-C.

Wood Fiber Mass. Fritz Ruhlemann and Otto R. Herdey. U. S. pat. 1,921,780 (Aug. 8, 1933).—Wood is ground in the presence of water, fiber-mucilage and colloidally dispersed fibers are washed away, and the residue is dried without application of pressure so as to obtain a loose fiber mass.—A. P.-C.

Composition of 18th Century Playing Cards. L. Vidal. Ind. Papetiere 12: 173, 175 (June, 1933).—Playing cards manufactured by Pierre Cheminada, who worked at Grenoble from 1710 to 1746, consisted of a triplex sheet; the two outer plies were made from linen rags (containing a small amount of cotton, probably as impurity due to imperfect sorting), and the inner one probably from hemp cordage. Cards dating from the end of the 18th or beginning of the 19th century had the same composition.—A. P.-C.

Photographic Paper. Elisha P. Essley. U. S. pat. 1,922,670 (Aug. 15, 1933).—A non-curling and non-blistering photographic paper comprises a sheet having a light-sensitive emulsion supporting coating on one side and having the pores of the paper completely filled with a gelatinuous substance tending to make the coated paper homogeneous in structure and free from entrained air; the surplus material is scraped from the back of the paper to leave the ends of the fibers exposed.—A. P.-C.

Cigarette Paper. Louis P. Schweitzer and William P. Schweitzer. U. S. pat. 1,909,924 (May 16, 1933).—A cigarette paper is prepared carrying a porous efflorescence of water-insoluble material such as a resinous composition which serves to render the paper water-resistant.—A. P.-C.

Manufacture of Creped Paper. Edward H. Angier. U. S. pat. 1,928,045 (Sept. 26, 1933).—Water-resistant creped paper is produced by coating the paper with a suspension of finely-divided, solid, water-resisting material, applying the sheet to a creping roll with the coating in contact with the roll, and creping by means of a doctor.—A. P.-C.

Cellulose Composition Suitable for Use in Paper Making. George A. Richter assignor to Brown Co. U. S. pat. 1,910,406 (May 23, 1933).—An aqueous composition comprises a hydrophilic colloid such as rosin soap with cellulose powder of a particle size not exceeding about 40-mesh and consisting of mechanically subdivided but substantially unhydrated white, cellulose fibers of stable character which may be derived from various materials.—A. P.-C.

Apparatus For Impregnating Coarsely Fibrous Material to be Worked Up Into Building Elements. Konrad Erdmann. U. S. pat. 1,918,462 (July 18, 1933).—Fibrous material such as "wood wool" is introduced into a vertical shaft or hopper from which it is drawn off at the bottom by a pair of rolls and drawn through a slurry of cement whence it passes between a pair of rolls travelling at a higher speed than the ones at the bottom of the hopper. It is then acted upon by a series of forks describing an approximately elliptical path, which project it on to a conveyor which delivers it into molds where it is allowed to harden.—A. P.-C.

Irregularities in Paper and Their Effect Upon Cutting and Reeling. W. Squires. World's Paper Trade Rev. Tech. Conv. No. 60, 62 (March, 1933); Paper Making & Brit. Paper Trade J. 85: TS93-94 (April, 1933).—A brief discussion.—A. P.-C.

Corrugated and Solid Fibreboard Boxes. Anon. World's Paper Trade Rev. 99: 1967-1970, 2010-2014; 100, 19-22, 58-62, 99-106, 184-194, 264-270, 344-350, 420-426, 464, 466, 584-590, 667-670, 704-710 (June 30-Sept. 1, 1933).—A series of lectures and demonstrations on the manufacture, testing and merits of fibreboard boxes, prepared by the staff of and given at the Laboratoire Général pour Emballages (Container Testing Laboratory), Paris, France, 1933.—A. P.-C.

Offsetting in Relationship to Paper Quality. James Strachan. Paper Maker & Brit. Paper Trade J. 85: TS65-67 (March, 1933).—A discussion of its causes and prevention.—A. P.-C.

Stencil Sheets. Carl F. Brauer. U. S. pat. 1,902,539 (March 21, 1933).—An open-texture fibrous base such as yoshino paper is coated with a composition including gelatin highly distended in an aqueous solution of acetic acid and containing homogeneously dispersed oleic acid and a non-coagulating stabilizer such as chlorinated naphthalene, palmitic acid or stearic acid (the gelatin being in unhardened and uncoagulated condition in the coated sheet).—A. P.-C.

Carbon Paper. Charles L. H. Suppligeau and Robert R. J. Guyot. U. S. pat. 1,911,592 (May 30, 1933).—Carbon copying sheets having limited copying areas are formed by applying a heated copying composition to the paper by

means of a heated printing roll having a photo-engraved microscopic intaglio surface, and cooling the paper directly after printing.—A. P.-C.

Mineral Coated Paper. The Champion Coated Paper Co. Brit. pat. 379,833 (Sept. 8, 1932).—Paper, cardboard, etc., in a wet condition is coated by applying an aqueous mixture of at least two-thirds clay, satin white, blanc fixe, etc., and not more than one-third casein, starch, glue, etc., to the moving paper or to an intermediate moving surface, and removing the excess mixture by means of a doctor surface which is continuously cleaned and moves in the opposite direction at a speed above that at which the coating is ridged and below that at which it is frothy, rippled coatings being obtained.—A. P.-C.

Roofing. Alexander S. Speer assignor to Certain-teed Products Corp. U. S. pat. 1,915,905 (June 27, 1933). —A layer of colored grit is loosely sprinkled on a sheet of ordinary grit-surface roofing composition, and portions of the second layer of grit are pressed in predetermined patterns into the roofing.—A. P.-C.

Paper Making. Charles Berrang and Eugène Freysz. Fr. pat. 742,719 (March 15, 1933).—The paper is moistened before glazing by liquid sprayed on by a centrifugal atomizer.—A. P.-C.

Protective Wrapping Sheet. Edgar A. Hall, Jr. U. S. pat. 1,915,416 (June 27, 1933).—The sheet comprises a sheet of paper having both surfaces smooth and a second sheet of paper provided with numerous small indentations on both faces of the central plane thereof, held together by a layer of adhesive covering the entire adjacent surfaces of the two sheets and filling all the indentation on the inner surface of the second sheet.—A. P.-C.

Artificial Board and Method of Producing Same. Francis L. Carson assignor to The Pacific Lumber Co. U. S. pat. 1,912,511 (June 6, 1933).—Shredded raw vegetable fibers are introduced into a bituminous emulsion and the mixture is formed into a sheet of any desired thickness.—A. P.-C.

Multi-Ply Paper Board. John H. Spohn, Jr., assignor to Chemical Development Co., Ltd. U. S. pat. 1,915,626 (June 27, 1933).—A strip of paper is wound on a rotating member, and a second strip is wound at an angle to the first strip and pasted thereto to form a tube on the rotating member. The tube is removed and formed into a flat paper board.—A. P.-C.

Fiber Composition Board. Mauran F. Parsons. U. S. pat. 1,906,088 (April 25, 1933).—Wheat straw, disintegrated into suitable lengths, is digested with a low-strength alkali under pressure for about 2 hrs. and the digested material is then sized and macerated partially to break down the fiber bundles and is used together with hydrated wood pulp for forming fiber board under pressure.—A. P.-C.

Distributing Binding Material Through Fibrous Material such as Pulp for Fiberboard Manufacture. Ernest J. Pieper, Dillon F. Smith and Clarence C. Vogt assignors to Armstrong Cork Co. U. S. pat. 1,901,930 (March 21, 1933).—A fluid suspension is formed of fibrous material such as paper pulp together with a binding material such as asphalt and stearin pitch and a solvent such as naphtha in a suspending liquid such as water in which the binder and solvent are substantially insoluble, and the suspension is stirred to distribute the liquid solution of the binder on the fibers and form a product suitable for fiberboard manufacture.—A. P.-C.

Creping Machine. Horace A. Sheesley assignor to Continental Paper and Bag Corp. U. S. pat. 1,911,001 (May 23, 1933).—In machines for creping paper both transversely and longitudinally, a soft rubber roll is provided in relation to the creping rolls to ensure uniform feeding of the paper.—A. P.-C.

Wood Pulp Felt. Harrison R. Williams. U. S. pat. 1,909,083 (May 16, 1933).—A loose felt suitable for the manufacture of sanitary napkins is produced by feeding a suspension of pulp in water on to a traveling belt, removing moisture by means of narrow suction slots disposed transversely under the belt, and drying the web thus formed, the whole operation being effected without the use of pressure rolls.—A. P.-C.

Cellulose Wool and Paper Product. Felix Thunert, U. S. pat. 1,906,671 (May 2, 1933).—Cellulose wool (a flake-like layer of cellulose produced on a paper machine, consisting only of fine fibers adhering together and having a considerably looser structure than crepe or tissue paper) is applied by means of adhesive to a sheet of paper serving as a base.—A. P.-C.

Machine For Making Longitudinally Corrugated Paper. Swan Smith assignor to Orenda Corp. U. S. pat. 1,906,342 (May 2, 1933).—When paper is corrugated longitudinally by gathering the central zone of the sheet by means of gathering rolls which partially form the innermost of the grooves, the latter being subsequently completely formed by forming rolls, the sheet has a tendency to fracture between the innermost grooves on account of the relatively heavy stress placed upon the paper at this point. The present invention overcomes this defect by providing a pair of initial rolls to gather the center of the moving sheet, one roll having a large, gradually curved bulge and the other roll a correspondingly shaped groove.—A. P.-C.

Method and Apparatus for Surfacing Shingle Strips. Donald A. Cumfer assignor to The Patent and Licensing Corp. U. S. pats. 1,916,095 and 1,916,096 (June 27, 1933). —A number of hoppers, each containing grit of a different color, which are to be blended in various proportions in order to obtain a varied effect, are each closed at the bottom by a rotating roll. Each roll is provided in its periphery with series of pockets of different capacities, by means of which the surfacing material is delivered on to a belt travelling at about ten times the peripheral speed of the feed rolls. The belt discharges the material on to the travelling strip of impregnated and coated roofing, baffles being provided between the travelling belt and the sheet of roofing to mix the differently colored grits. No. 1,916,095 covers the method and No. 1,916,096 the apparatus.—A. P.-C.

Process of Creping Paper. William W. Rowe assignor to The Paper Service Co. U. S. pat. 1,914,869 (June 20, 1933).—This is an improvement on Rowe's U. S. Reissue pat. 17,633, of April 1, 1930, according to which the sheet to be creped is made to adhere to the creping roll by means of a film of a thermoplastic substance such as asphalt. According to the present patent, the thickness and temperature of the asphalt film are controlled by applying it to the creping roll in advance of the point at which it is engaged by the sheet to be creped and adjusting the position and temperatures of the creping roll and the rolls which transfer to the liquid asphalt from the bath to the creping roll.—A. P.-C.

Method of Producing Marbled Effects On Paper George MacK. Brown. U. S. pat. 1,912,885 (June 6 1933).—A sheet of paper is passed into contact with the surface of a liquid medium (*e.g.*, water) in a trough Drops of a colored solution or other liquid immiscible with the liquid in the trough are deposited on its surface, which is agitated by means of an agitator consisting of a shaf parallel to and above the surface of the liquid, on which are mounted a series of inclined disks, adjacent disks be

ing at opposite inclinations to the shaft. The paper picks the colored film from the surface of the liquid and is rewound.—A. P.-C.

Carbon Paper. Harold W. A. Dixon. U. S. pat. 1,925,235 (Sept. 5, 1933).—A coating of hectograph ink is applied to a glassine paper base.—A. P.-C.

The Manufacture of True Vegetable Parchment. Michel Fourneron. Papeterie 55: 781-786 (Aug. 10, 1933). —A brief general description bringing out the advantages of the manufacture of this sort of paper under present economic conditions.—A. P.-C.

Rug Underlay. Willard J. Slagle assignor to Dewey & Almy Chemical Co. U. S. pat. 1,905,008 (April 25, 1933).—An underlay for floor coverings comprizes a sheet of creped paper having both faces surfaced with a thin coating of vulcanized rubber.—A. P.-C.

Roofing and Process of Manufacturing the Same. Roger W. Cutler. U. S. pat. 1,924,181 (Aug. 29, 1933).—Fibrous material is suspended in a solution of fireproofing substances and made into board, which is impregnated with a synthetic resin in one of its lower phases and then heated to convert the synthetic resin into its insoluble and infusible state.—A. P.-C.

Apparatus For Making Variegated Strip Shingles. Clarence R. Eckert assignor to The Patent and Licensing Corp. U. S. pat. 1,927,820 (Sept. 26, 1933).—Waterproof adhesive is applied to one face of a sheet of roofing material and separate streams of differently colored grit are applied to form longitudinal stripes, means being provided to guide the streams of grit so as to prevent them from mixing with one another.—A. P.-C.

Method and Apparaus For Surfacing Roofing. Jules L. Wettlaufer. U. S. pats. 1,928,274 and 1,928,275 (Sept. 26, 1933).—Differently colored granules are discharged on to a travelling sheet of roofing base from separate hoppers through a perforated disk that determines the relative proportions of the various colors. The various streams are mixed to produce a desired color effect, and the proportions of the different colors of granules are periodically varied. *No. 1,928,274* covers the method and *No. 1,928,275* the apparatus.—A. P.-C.

Roofing Elements and Method of Applying Materials Thereto. Thomas Robinson assignor to Lancaster Asphalt, Inc. U. S. pat. 1,925,282 (Sept. 5, 1933).—Impregnated roofing felt is coated with individual asphalt particles adhering to one another and to the base, but retaining to some extent their individual shapes; a layer of granular material is then applied so that the granules lie partially embedded in the coating and fill up the interstices between the asphalt particles.—A. P.-C.

Multi-Ply Asphaltum Paper Board. Sidney J. Blum assignor to Arvey Corp. U. S. pat. 1,910,671 (May 23, 1933).—One ply of the paper is passed through a water bath, both sides of this ply are coated with hot asphalt, other paper plies are placed on opposite sides of the coated ply, the plies are pressed together and the assembly is passed through a water bath. An arrangement of apparatus is described.—A. P.-C.

Fireproof Wallboard. John A. Wiener and John B. Harmon. U. S. pat. 1,905,541 (April 25, 1933).—Vermiculite and a fluid such as water and wood fiber are formed into a viscous mixture and the refined mass is formed into sheets. Various details of apparatus and operation are described.—A. P.-C.

Floor-Covering Material. Carleton Ellis assignor to Rezyl Corp. U. S. pat. 1,905,827 (April 25, 1933).—A backing of asphalt-saturated felt, substantially free from oil, is coated with a flexible, self-flattening layer comprising a mixture containing high-viscosity nitrocellulose and low-viscosity nitrocellulose.—A. P.-C.

Waterproofing Materials Such As Paper or Building Materials With Aqueous Emulsions Such As Those of Asphalt. Carl A. Braun assignor to International Bitumen Emulsions Corp. U. S. pat. 1,905,212 (April 25, 1933).—The materials to be waterproofed are pretreated with an emulsion stabilizer such as rosin size or soap and are then mixed with a quick-breaking aqueous emulsion substantially free from colloidal powders, and an electrolyte is finally added to break the emulsion.—A. P.-C.

Waterproofing Paper. Dominique Massoni and François Moncel. Fr. pat. 743,393 (March 30, 1933).—A mixture obtained by fusing paraffin and a natural or synthetic resin is used.—A. P.-C.

Process and Apparatus for Sulphurizing Paper Board. William R. William assignor to Marathon Paper Mills. U. S. pat. 1,924,142 (Aug. 29, 1933).—The base material in web form is passed through a bath of molten sulphur that is kept under pressure, the tank containing the bath being provided with adjustable rolls to regulate the tension of the sheet.—A. P.-C.

Grease—and Moisture-Proofing Tissue Paper. Marino Gentile. U. S. pat. 1,908,341 (May 9, 1933).—A thin, soft, absorbent tissue paper is impregnated and coated with a cellulose nitrate composition so as to form an integral product of increased transparency suitable for wrapping foods.—A. P.-C.

Abrasive Paper. Herbert N. Morris assignor to Rucel, Ltd. U. S. pat. 1,904,663 (April 18, 1933).—Powdered abrasive material is secured to a backing sheet by a homogeneous film containing rubber and cellulose (which may be in the form of an ester or ether) in intimate association.—A. P.-C.

Document Paper. Theodore J. Snyder. U. S. pat. 1,910,568 (May 23, 1933).—A layer of bibulous paper carries a layer of tissue paper on each side both layers of tissue paper being provided with coloring material which is fugitive when attacked by acids or bleaching agents. —A. P.-C.

Safety Paper. Burgess W. Smith assignor to The Todd Co. U. S. pat. 1,911,774 (May 30, 1933).—A safety paper which shows a conspicuous stain from the action of chemical eradicators contains a material comprising a substance, such as biphenol, having two carbon rings or groups of carbon rings linked together with the biphenyl or equivalent linkage and having two hydroxyl groups in *p*-position to such linkage, and a diphenylguanidine substance.—A. P.-C.

Rubber Latex and Pulp Paper. Antonion Ferretti. Brit. pat. 375,462 (June 30, 1932).—In the manufacture of rubber products containing mineral fibers with, if desired, other fibers, the fibers are reduced to a pulp in water and coagulating agents, such as aluminum sulphate or calcium or magnesium salts, are added thereto at any time prior to the addition of the latex. The rubberized pulp may be sheeted on a paper machine. Vulcanizing agents, etc., may be added and the product vulcanized.—A. P.-C.

Composition Suitable For Waterproofing Paper, Millboard, Etc. Douglas F. Twiss and Walter G. Gorham assignors to Dunlop Rubber Co., Ltd. U. S. pat. 1,904,576 (April 18, 1933).—An aqueous dispersion of rubber material is admixed with an aqueous dispersion of wax, in substantially equal proportions of wax and rubber.—A. P.-C.

Sheet Material. Edmund Boehm & Co. Fr. pat. 742,809 (March 17, 1933).—Light translucent sheets are made by spreading in a mold one or more thin sheets of cellulose wadding with the addition of a translucid binder, such as a gelatin, purified gum arabic or a translucid varnish. The sheets are pressed and dried.—A. P.-C.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING MARCH 17, 1934

CIGARETTE PAPER

American Tobacco Co., Schodack, Havre, 50 cs.; Champagne Paper Corp., by same, 920 cs.; P. J. Schweitzer, Pr. Adams, Marseilles, 1 cs.

WALL PAPER

S. K. Lonregen, Sparreholm, Gothenburg, 4 cs.; S. K. Lonregen, Drottningholm, Gothenburg, 14 cs.; R. F. Downing & Co., Montreal, Maru, Kobe, 10 bbls.; F. J. Emmerich, Berlin, Hamburg, 12 bls.; Universal Car Loading Co., Berlin, Bremen, 3 cs.

NEWSPRINT

Perkins Goodwin & Co., Berlin, Hamburg, 107 rolls; Parsons & Whittemore, Inc., by same, 681 rolls; Jay Madden Corp., Berlin, Bremen, 283 rolls; Jay Madden Corp., Scanstates, Helsingfors, 419 rolls; Lunham & Reeve, Inc., by same, 516 rolls; ———, Bergensfjord, Oslo, 269 rolls.

PRINTING PAPER

Steiner Paper Corp., Berlin, Bremen, 8 cs.; Ozalid Corp., Blommersdyk, Rotterdam, 26 cs.; F. C. Strype, by same, 17 rolls.

WRAPPING PAPER

T. Barrett & Son, Sparreholm, Gothenburg, 60 bls.; J. P. Heffernan Paper Co., Traunstein, Bilbao, 60 bls.; Steiner Paper Corp., Berlin, Hamburg, 4 cs.; Rohner Gehrig & Co., Black Hawk, Antwerp, 16 cs.

FILTER PAPER

J. Manheimer, Majestic, Southampton, 109 bls., 9 cs.; H. Reeve Angel & Co., Inc., by same, 6 bls., 1 cs.; H. Reeve Angel & Co., Inc., Aurania, Southampton, 9 bls.

DRAWING PAPER

H. Reeve Angel & Co., Inc., Aurania, Southampton, 10 cs.

METAL COATED PAPER

K. Pauli Co., Berlin, Hamburg, 1 cs.; K. Pauli Co., Berlin, Bremen, 62 cs.

SURFACE COATED PAPER

Gevaert Co. of America, Black Hawk, Antwerp, 11 cs.

PHOTO PAPER

American Express Co., Berlin, Hamburg, 18 cs.; J. J. Gavin, Majestic, Southampton, 3 cs.

TISSUE PAPER

J. Romer, Montreal, Maru, Kobe, 10 cs.; B. F. Drakenfeld & Co., Antonia, Liverpool, 6 cs.; Jay Madden Corp., Scanstates, Helsingfors, 2 bls., 1 cs.

DECALCOMANIAS

L. A. Consmiller, Berlin, Hamburg, 5 cs.; Phoenix Shipping Co., Berlin, Bremen, 3 cs.; Sellers Transportation Co., Europa, Bremen, 32 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Antonia, Liverpool, 22 cs. (duplex); B. F. Drakenfeld & Co., by same, 7 cs. (simplex).

WRITING PAPER

A. W. Fenton, Inc., Paris, Havre, 3 cs.

IVORY BOARD

R. Wilson Paper Corp., Blommersdyk, Rotterdam, 29 cs.

BRISTOL BOARDS

Favor Ruhl & Co., Amer. Farmer, London, 2 cs.

PAPER BAGS

J. B. Mast & Co., Black Hawk, Antwerp, 8 cs.

MISCELLANEOUS PAPER

W. Bersch, Berlin, Bremen, 33 cs.; The Borregaard Co., Inc., Drottningholm, Gothenburg, 268 rolls; Kramer & Co., by same, 123 bls.; E. H. Sargent & Co., by same, 1 cs.

RAGS, BAGGINGS, ETC.

———, Schodack, Havre, 50 bls. rags; E. J. Keller Co., Inc., Schodack, ———, 28 bls. rags; Castle & Overton, Inc., Schodack, Dunkirk, 109 bls. rags; Chase National Bank, Hokuroku, Maru, Kobe, 60 bls. rags; Chase National Bank, Berlin, Bremen, 160 bls. jute card waste; Chase National Bank, by same, 108 bls. jute croppings; Amtorg Trading Corp., Excelsior, Odessa, 974 bls. rags; Darmstadt Scott & Courtney, Black Hawk, Antwerp, 124 bls. bagging; W. Steck, by same, 96 bls. paper stock; E. J. Keller Co., Inc., Black Hawk, ———, 91 bls. flax waste; S. Frankenhuis & Son, Black Hawk, Antwerp, 161 bls. cotton waste; Leigh Textile Co., by same, 821 bls. cotton waste; Leigh Textile Co., Blommersdyk, Rotterdam, 356 bls. cotton waste; Hermann Sack Co., by same, 115 bls. bagging; Melrose Paperstock Co., Inc., by same, 15 bls. rags; C. H. Powell, by same, 155 bls. cotton waste; Banco Coml. Italiane Trust Co., Giulia Trieste, 47 bls. paper stock; Manufacturers Trust Co., Giulia, Naples, 77 bls. rags; Darmstadt Scott & Courtney, Artigas, Manchester, 93 bls. rags; ———, by same, 1,357 bls. cotton waste; ———, by same, 71 bls. rags.

HIDE GLUE

———, Berlin, Bremen, 200 bags.

CASEIN

Atternury Bros., Inc., Amer. Legion, B. Ayres, 417 bags; ———, by same, 50 bags; D. C. Andrews & Co., Berlin, Hamburg, 50 bags.

WOOD PULP

Johaneson Wales & Sparre, Inc., Sparreholm, Gothenburg, 152 bls. sulphite; Price & Pierce, Ltd., by same, 125 bls. sulphite; Perkins Goodwin & Co., by same, 250 bls. sulphite; D. M. Hicks, Inc., by same, 12 bls. chemical pulp; Parsons & Whittemore, Inc., Berlin, Hamburg, 250 bls. sulphite, 50 tons; Castle & Overton, Inc., by same, 395 bls. wood pulp, 79 tons; J. Andersen & Co., Drottningholm, Gothenburg, 250 bls. sulphite; The Borregaard Co., Inc., by

same, 300 bls. chemical pulp; Price & Pierce, Ltd., by same, 625 bls. dry pulp; Price & Pierce, Ltd., by same, 125 bls. sulphite; E. M. Sergeant & Co., by same, 897 bls. kraft soda pulp; D. M. Hicks, Inc., by same, 300 bls. sulphite; Castle & Ovington, Inc., Scanstates, Helsingfors, 2,130 bls. sulphite, 417 tons; Lagerloef Trading Co., by same, 1,814 bls. sulphite, 329 tons; E. J. Keller Co., Inc., Scanstates, ———, 691 bls. wood pulp, 104 tons; The Borregaard Co., Inc., Bergensfjord, Sarpsborg, 168 bls. sulphite; Bulkley Dunton & Co., Black Eagle, ———, 280 bls. wood pulp; Bulkley Dunton & Co., Argosy, ———, 3,000 bls. wood pulp.

WOOD PULP BOARDS

———, Blommersdyk, Rotterdam, 144 bls.

BOSTON IMPORTS

WEEK ENDING MARCH 17, 1934

Perkins Goodwin & Co., Sparreholm, Gothenburg, 1,397 bls. sulphate; Perkins Goodwin & Co., by same, 508 bls. sulphite; Stora Kooparberg Corp., by same, 3,100 bls. wood pulp; Price & Pierce, Ltd., by same, 500 bls. sulphite; E. M. Sergeant & Co., by same, 150 bls. soda pulp; Johaneson Wales & Sparre, Inc., by same, 150 bls. soda pulp; J. Andersen & Co., by same, 2,050 bls. sulphite; Gottesman & Co., Inc., by same, 620 bls. chemical pulp; Bulkley Dunton & Co., Westerwald, ———, 1,800 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING MARCH 17, 1934

Stora Kopparberg Corp., Sparreholm, Gothenburg, 400 bls. dry pulp; Waterfalls Papermills, Inc., by same, 2,500 bls. chemical pulp; Gottesman & Co., Inc., by same, 300 bls. chemical pulp.

PHILADELPHIA IMPORTS

WEEK ENDING MARCH 17, 1934

Perkins Goodwin & Co., Scanstates, Gdynia, 875 bls. wood pulp, 138 tons; Johaneson Wales & Sparre, Inc., by same, 168 bls. wood pulp, 25 tons; Castle & Overton, Inc., Scanstates Helsingfors, 1,010 bls. sulphite, 199 tons; Lagerloef Trading Co., by same, 4,180 bls. sulphite, 745 tons; J. W. Hampton, Jr., Inc., by same, 74 rolls newsprint; E. J. Keller Co., Inc., Scanstates, ———, 357 bls. wood pulp, 54 tons.

BALTIMORE IMPORTS

WEEK ENDING MARCH 17, 1934

Congoleum Nairn Co., Schodack, Havre, 83 bls. rags; Congoleum Nairn Co., Schodack, Dunkirk, 182 bls. rags; Congoleum Nairn Co., Black Hawk, Antwerp, 46 bls. rags; Bulkley Dunton & Co., Bilderdyk, ———, 1,038 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING MARCH 17, 1934

Chase National Bank, Schodack, Dunkirk, 235 bls. bagging; E. J. Keller Co., Inc., Black Hawk, ———, 167 bls. bagging; E. J. Keller Co., Inc., by same, 65 bls. rags; ———, Artigas, Manchester, 30 bls. paper stock; Darmstadt Scott & Courtney, by same, 145 bls. bagging; E. Butterworth & Co., Inc., by same, 178 bls. bagging; Dixie Jute Bagging Corp., by same, 60 bls. bagging; Castle & Overton, Inc., by same, 161 bls. bagging; ———, Artigas, Liverpool, 69 bls. bagging.

CHARLESTON IMPORTS

WEEK ENDING MARCH 17, 1934

Chase National Bank, Montreal, Maru, Kobe, 400 bls. bagging; Banco Coml. Italiane Trust Co., by same, 800 bls. bagging; Manufacturers Trust Co., Hokuroku, Maru, Shanghai, 204 bls. bagging.

SAVANNAH IMPORTS

WEEK ENDING MARCH 17, 1934

Manufacturers Trust Co., Hokuroku, Maru, Shanghai, 203 bls. bagging.

HOUSTON IMPORTS

WEEK ENDING MARCH 17, 1934

Banco Coml. Italiane Trust Co., Giulia, Venice, 59 bls. bagging; Darmstadt Scott & Courtney, by same, 66 bls. bagging.

Indianapolis Demand Improves

INDIANAPOLIS, Ind., March 19, 1934.—Warmer weather last week caused the paper volume to assume more natural volume following sub-zero temperatures of the week before when traffic was tied up and business snowed under for the most part, particularly at the latter part of the week.

The general tone of the market is good. With the code beginning to function and the incipient difficulties becoming fewer, the trade is getting back on an even keel. In some lines during the last week demand was not all it should have been but prices were firmly held. According to some of the local jobbers, if the code provisions do nothing else except stop the cut-throat competition that was the rule for some years, it will have been worth its trial.

Kraft demand this week was not so heavy. Prices are firm, however, and the slump is believed to be only temporary. A considerable amount of buying during the first two months of the year is believed to be responsible for the present lack of demand. Most of the current wants had been taken care of.

Most of the fine papers had a fair request last week. Demand is not what it should be, but it is expanding gradually, particularly in the fine paper market. Books and covers are moving, but not in considerable volume. In the fine paper field, considerable interest is being taken in bids that will be received until the end of the month for school books for the next five years. The lucky publishers will be in the market almost immediately, for the books must be supplied by the beginning of the next school year. Changes are being made in textbooks for the first time in five years.

Inquiries are being received concerning summer specialties. The general price range will be higher this spring than last and there are many retailers who now wish they had carried over a lot heavier stock than they did. As it was buying was entirely hand to mouth and toward the close of the summer many retailers did not reorder, even for demand, fearing they would have some stock to carry.

Sitka Spruce Pulp & Paper Co. To Resume

MARSHFIELD, Ore., March 17, 1934—Sitka Spruce Pulp and Paper Company, one of Coos Bay's major industrial enterprises, is expected to resume operations after being shutdown for an 18-month period. No date for resumption of activities has been set, but unofficial sources spread the news that it will be open within 120 days.

The mill was recently bought by a committee acting for the judgment creditors of the defunct company. The group included Chris Boesen, T. H. Ness and J. G. Mullen. They are understood to have arranged to transfer the property to K. O. Fosse of the International Wood and Sulphite Company, Seattle, Wash.

Closing of the plant more than a year ago was necessary after withdrawal of the Dollar and Fleishhacker interests which had controlled its operation with C. McC. Johnson.

Amount involved in the transaction was $74,242.70. The mill will turn out an average of 60 tons of sulphite pulp daily when operations are resumed.

MARCY OPEN-END ROD MILLS

for Perfect Beating of Every Type of Stock

FACTS

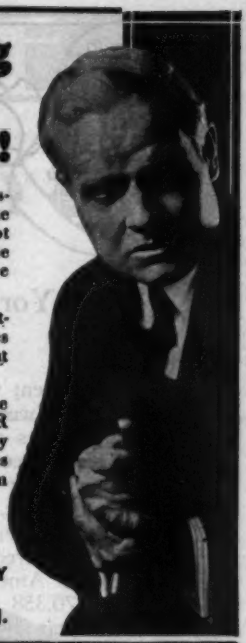
1. Positively reduce power costs.
2. Absolute control under all conditions.
3. Maximum preservation of initial strength.
4. Preserve full fibre length.
5. Positive separation of fibre bundles.
6. Positively no unbeaten stock by-passed.

By equipping your mill with MARCY ROD MILLS—you reduce upkeep and labor costs—yet produce a product of highest quality.

Specific inquiries are invited.

The MINE and SMELTER SUPPLY COMPANY
Denver, Colorado

A 92% Saving in Slime Removal Cost!



At a large eastern mill it was necessary to use acid to clean the slime from a save-all screen. This was not only a slow and laborious job, but the acid had its detrimental effect on the copper screen.

MAGNUS SLIME REMOVER, costing 8% of the acid price, now removes all slime in one operation—without any damage to the copper.

These are the kind of savings the use of MAGNUS SLIME REMOVER can mean in your mill. It is highly effective—quickly penetrates, loosens and removes all slime deposits from piping and equipment.

Write for our literature and full details.

MAGNUS CHEMICAL COMPANY
Manufacturers of Cleaning Materials
24 South Avenue Garwood, N. J.

Magnus SLIME REMOVER

WHAT YOU WANT JUST WHEN YOU WANT IT

COMPLETE — AUTHENTIC — RELIABLE INFORMATION
Relative to Every Pulp and Paper Mill on This Continent Is to Be Found in the

1934 EDITION
59th CONSECUTIVE ANNUAL EDITION

LOCKWOOD'S DIRECTORY
of the
PAPER & ALLIED TRADES

ORDER YOUR COPY NOW

THE MANY CHANGES LISTED IN THE 1933 EDITION MAKE PREVIOUS EDITIONS OBSOLETE. PRICE $7.50 DELIVERED.

Special Traveler's Pocket Edition
bound in a flexible cover, comprising the Paper and Pulp Mills, Coating Mills and the Mill Officials. Price $7.50, including delivery charges. ($7.00 cash with order)

Published by
LOCKWOOD TRADE JOURNAL CO.
15 W. 47th St. NEW YORK, N. Y. U. S. A.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, March 21, 1934.

Some improvement was noticed in the local paper market during the past week. Demand for the various standard grades of paper was slightly better. Inquiries for future delivery are being received in greater volume. Sales forces of the leading paper organizations are more optimistic. Prices continue steady.

The newsprint paper market is fairly active. According to information gathered by the News Print Service Bureau, the total North American production during February amounted to 270,358 tons. The output in the first two months of the year showed an increase of 121,300 tons, or 27 per cent, over the corresponding period of 1933.

Steadiness prevails in the paper board market. Manufacturing operations are being maintained in sufficient volume to take care of current requirements. The fine paper market is displaying more strength. Fine writing papers are moving more freely. Tissues are going forward in good volume. The coarse paper market is firm.

Mechanical Pulp

The ground wood pulp market is exhibiting a strong undertone. Offerings of both domestic and imported mechanical pulp are rather limited, due to adverse weather conditions, and other causes. The contract movement is moderately active. Prices are holding to previously quoted levels, without difficulty.

Chemical Pulp

Conditions in the chemical pulp market are practically unchanged. Demand for domestic and imported kraft pulp continues persistent, while other grades are moderately active. Supplies are moving into consumption in fairly good volume. Prices are holding to schedule and reports of concessions are infrequent.

Old Rope and Bagging

The old rope market continues to mark time. Demand for both domestic and foreign old manila rope is restricted. Small mixed rope is moderately active. Old rope prices remain unchanged. The bagging market is fairly buoyant. Gunny and scrap bagging quotations continue steady. Roofing bagging is somewhat stronger.

Rags

The domestic rag market is attracting more interest from the paper mills. New cotton rags are in better request. Offerings of No. 1 white shirt cuttings are limited and prices are firmer. Roofing grades are in seasonal request. Despite the foreign exchange situation the imported rag market is showing signs of improvement.

Waste Paper

Board mill demand for the lower grades of paper stock is mainly routine. Quotations on strictly folded news and No. 1 mixed paper have been cut $2 per ton. Other grades are steadier. The higher grades of waste paper are firm, including hard and soft white shavings, and hard white envelope cuttings. Book stock is holding up well.

Twine

Trading in the local twine market is fairly brisk and most of the various grades are in seasonal request. With the approach of the Easter holidays supplies are moving into consumption more freely. There are a number of inquiries around for future account, some of which should materialize into satisfactory orders.

To Hear Tax Appeal Case at Holyoke

HOLYOKE, Mass., March 20, 1934—It is expected that the tax appeal case of the Chemical Paper Manufacturing Company and Crocker-McElwain Company will open the 26th. One of the contentions of the appellants is that the water rights do not enhance the value of their property to the amount set forth by the Holyoke Board of Assessors. J. M. Whitam of Philadelphia, expert hydraulic engineer, has been engaged by the city as witness in the case. The case is to be heard by the State Board of Tax Appeals. City Solicitor Russell L. Davenport has engaged Attorney Philip O'Brien of this city as associate counsel in the case. The Holyoke Water Power Company has secured favorable concessions on similar appeals.

Pennsylvania Salt Moves New York Office

The Pennsylvania Salt Manufacturing Company, manufacturers of chemicals for the paper industry, with executive offices at Philadelphia, announces the removal of its New York office, after April 1, from 41 Park Row to new and larger quarters at 9 East Forty-first street. The new telephone number will be Vanderbilt 3—0551. Frederick G. Rodenburgh is district sales manager.

Fire in Dust Hole of Whiting Mill

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., March 20, 1934—Fire was discovered in the "dust hole" of the No. 3 mill of the Whiting Paper Company about 11:30 Saturday night and the fire department had an hour and a half fire fighting to extinguish the blaze, which had worked into the partitions from floor and up to the roof. Holes were cut in the roof and the fire subdued. The loss will be small.

Up until 1931, a report points out, the United States always ranked as the largest market for Argentine casein. In 1931 Germany assumed first place and has held it since that time. Following Germany, England and the United States, the most important foreign markets for Argentine casein in 1933 were Japan, Holland and Italy.

Annual production of casein in Argentina is estimated at approximately 16,000 metric tons, the report states.

ADHESIVES

for

THE PAPER INDUSTRY

Let Us Quote You On Your Requirements

THE ARABOL MFG. CO.

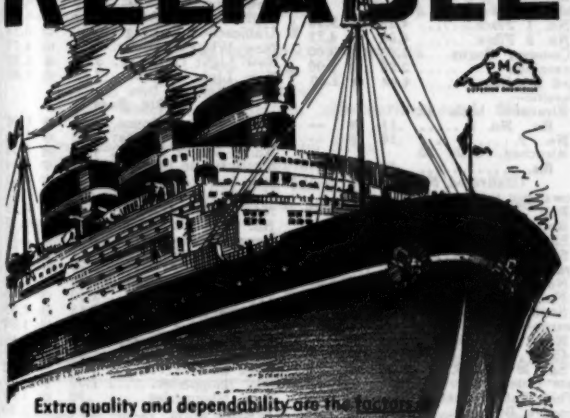
110 E. 42nd Street, NEW YORK, N. Y.
54th Ave. & 18th St., CICERO, ILLINOIS

All technical problems treated with strictest confidence

ARABOL

ARABOL

RELIABLE



Extra quality and dependability are the factors of safety in paper-making chemicals. Use PMC products; they eliminate chances; they are reliable.

PMC

SUPERIOR CHEMICALS

ROSIN SIZE • SATIN WHITE
INDUSTRIAL CHEMICALS

PAPER MAKERS CHEMICAL CORPORATION
KALAMAZOO, MICHIGAN
PLANTS IN ALL LARGE PAPER-MAKING AREAS
Distributor of Hercules Wood Rosins and Steam-distilled Pine Oils

forged flanges!

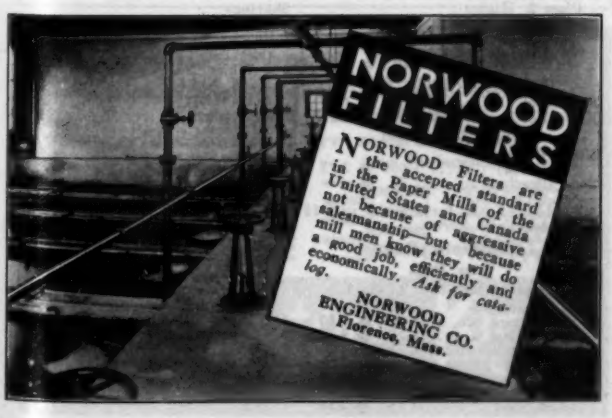
ANY SIZE—ANY TYPE—ANY QUANTITY

Kropp Forge Steel Flanges, better made from specification steel, are stocked in standard types and sizes, ready for immediate shipment. Special types or flanges of alloy steels made to specification. Regardless of your forging needs, flanges, rolls, shafts or special machine parts, we can forge it.

Our unequalled facilities provide for rapid delivery of every order, no matter how small.

K

KROPP FORGE COMPANY
5303 Roosevelt Road Chicago, Ill.
"forgings to your specification"


NORWOOD FILTERS
NORWOOD Filters are the accepted standard in the Paper Mills of the United States and Canada not because of aggressive salesmanship—but because mill men know they will do a good job, efficiently and economically. Ask for catalog.
NORWOOD ENGINEERING CO.
Florence, Mass.

PAPER MAKERS IMPORTING CO. INC. EASTON, PENNSYLVANIA U.S.A.

FINEST PAPER CLAYS

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, March 21, 1934.

BLANC FIXE.—The blanc fixe market is moderately active. Prices are holding to previously quoted levels. The pulp is selling at from $42.50 to $45 per ton, in bulk; while the powder is offered at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Conditions in the bleaching powder market are fairly satisfactory. Contract shipments are moving in good volume. Prices are holding to schedule. Bleaching powder is quoted at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market is fairly active. Domestic standard ground is quoted at 12 cents and finely ground at 13 cents per pound. Argentine standard ground is selling at 15½ cents and finely ground at 16 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Some improvement has transpired in the caustic soda market. The contract movement is fairly heavy. Solid caustic soda is quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3 to $3.05 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market continues firm. Contract shipments are moving at a steady pace. Imported china clay is still quoted at from $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at from $5 to $12 per ton, at works.

CHLORINE.—Demand for chlorine is persistent. Shipments against contract are going forward regularly. Prices are steady to firm. Chlorine is quoted at from $2 to $2.25 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is marking time. Grades of gum rosin used in the paper mills are now quoted at from $6.20 to $6.45 per 280 pounds, in barrels, at works; while wood rosin is selling at $4.90 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Trading in the salt cake market is fairly brisk. Prices are firm. Salt cake is still quoted at from $12 to $14, and chrome salt cake at from $12 to $12.50 per ton, at works; while imported salt cake is selling at from $12 to $12.50 per ton, on dock.

SODA ASH.—The soda ash market is exhibiting a strong undertone. The contract movement is normal. Prices are steady. Quotations on soda ash, in car lots, at works, per 100 pounds, are still as follows: in bulk, $1.10; in bags, $1.04; and in barrels, $1.50.

STARCH.—The position of the starch market is practically unchanged. Shipments against contract are well maintained. Prices are steady. Special paper making starch is quoted at $2.67 per 100 pounds, in bags; and at $2.95 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Paper mill demand for sulphate of alumina is persistent. Prices are holding to schedule. Commercial grades are quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and nearby car loads, the quotation is $21 per ton.

TALC.—Steadiness prevails in the talc market. The contract movement is well up to average. Prices are steady. Domestic talc is still quoted at from $16 to $18 per ton, in bulk, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho.	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.60	@	.80
White No. 2	.55	@	.70
Anti-Tarnish M. G. only	.75	@	.80
Colored	.80	@	1.00
Kraft	.75	@	.80
Manila	.65	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.11	@	—
No. 2	.10	@	—
Bleached, basis 20 lbs.	.13	@	—

(Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Side Runs	25.00	@	—
Kraft—			
No. 1 Domestic	4.75	@	5.00
No. 2 Domestic	3.87½	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	45.00	@	50.00
Chip	42.50	@	47.50
Sel. Mix. LL Chip	52.50	@	55.00
Jute Lined Chip	52.50	@	55.00
White Patent Coated	60.00	@	65.00
Binders Boards	68.00	@	72.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	27.00	@	29.00
Dry	27.00	@	30.00

(F.o.b. Mill)

No. 1 Domestic and Canadian	24.00	@	29.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.85	@	—*
Division 2	2.80	@	—*
Division 3	2.75	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.25	@	—*
Other Than Easy Bleaching—			
Class 2. Higher Than Standard	2.20	@	—*
Class 3. Standard	2.15	@	—*
Class 4. Lower than Standard	2.10	@	—

(On Dock, Atlantic Ports)

Kraft No. 1	1.75	@	1.90
Kraft No. 2	1.60	@	1.70

(F.o.b. Pulp Mill)

Kraft Domestic (Delivered)	1.60	@	2.75
Soda Bleached	2.50	@	—

* Add 5 Cents for Albany and 15 Cents for Lake Ports.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.50	@	7.00
Silesias No. 1	4.25	@	4.50
New Unbleached	6.75	@	7.25
New Soft Blacks	3.00	@	3.25
Blue Overall	4.00	@	4.25
Fancy	2.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.15	@	1.30
No. 2	.85	@	.90
No. 3	.75	@	.80
No. 4	.70	@	.75
No. 5A	.65	@	.70

Foreign Rags

New Rags

New Dark Cuttings	1.60	@	1.70
New Mixed Cuttings	1.75	@	1.85
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.50	@	1.75
Dark Cottons	1.15	@	1.30
Old Shopperies	1.00	@	1.10
New Shopperies	.90	@	1.00
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.40	@	1.50
Wool Tares, light	1.20	@	1.30
Wool Tares, heavy	1.25	@	1.35
Bright Bagging	1.20	@	1.30
Manila Rope—			
Foreign	2.40	@	2.50
Domestic	2.50	@	2.75
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.65	@	2.75
Ordinary Hard White No. 1	2.35	@	2.45
Hard White No. 2	2.10	@	2.20
Soft White No. 1	2.00	@	2.10
Flat Stock—			
Stitchless	.95	@	1.05
Over issue Mag	.95	@	1.05
Solid Flat Book	.85	@	.95
Crumpled No. 1	.65	@	.75
Solid Book Ledger	1.50	@	1.65
Ledger Stock	1.05	@	1.15
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.65	@	1.75
New Cuttings	1.20	@	1.30
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.25	@	1.35
News—			
No. 1 White News	1.25	@	1.30
Strictly Overissue	.70	@	.75
Strictly Folded	.45	@	.55
No. 1 Mixed Paper	.25	@	.30

BETTER your product—lower your manufacturing costs—with Langston Slitters and Rewinders. Every roll square-edged, tightly wound, dust-free. Types for every need. Ask for catalog.

Samuel M. Langston Co., Camden, N. J

LANGSTON SLITTERS

EMERSON BEATERS

THE EMERSON MANUFACTURING CO.
LAWRENCE—MASSACHUSETTS
5767

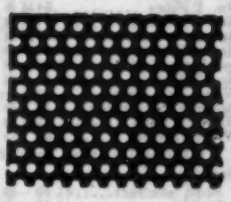
GUARANTEED SAVINGS

Send us your inquiries

COLOR and SLIME reduction.
White water sedimentation eliminating sand filter clogging.
Increased retention of size on fibre.
Water supply and conditioning.
Reclamation of fibre and filler.
Wider pH operation within non-corrosive limits, waste water recovery.
Flexible treatments readily adapted to the varying water problems.
Reports, surveys, estimates and designs.

M. L. MILLER—*Engineers*
310 S. Michigan Ave. CHICAGO, ILL.

Perforated Metal Screens
For Pulp and Paper Mills



STEEL, COPPER, BRASS, BRONZE, MONEL METAL and other Alloys punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.

".065" Round

CHARLES MUNDT & SONS
63-65 FAIRMONT AVE. JERSEY CITY, N. J.

PERMANENT COLORS
Browns Greens Reds Yellows

BROWNS
Oxides of Iron
Turkey Umbers

GREENS
Chromic Oxides
Guignet's Green

REDS
All types and shades of Oxides of Iron

YELLOWS
Ochres
Iron Hydroxides

Asbestines and Talcs for Fillers

C. K. WILLIAMS & CO.
EASTON, PA.

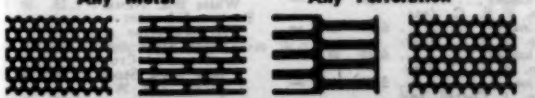
CASEIN

CASEIN-CO A BORDEN PRODUCT BRAND

Uniform Quality
Dependable Service

THE CASEIN MFG. COMPANY OF AMERICA, Inc.
205 E. 42nd St. New York, N. Y.
Oldest and Largest Producers of Casein in America

Pulp and Paper Mill Screens
Of Stainless Steel—Copper—Bronze—Monel—Chemical Resisting Alloys
Perforations that are accurate in size
Any Metal Any Perforation



The Harrington & King PERFORATING CO.

GLAZED TILE TANKS

Cost less and much more durable than concrete or cypress. Cleaner. Will not "slime up." Over 300 now in use in mills from Maine to Minnesota.

KALAMAZOO TANK and SILO COMPANY
Kalamazoo Michigan

We've been building wood stock chests, acid tanks and blow pits for over 60 years.

Twines
(F. o. b. Mill)

Cotton—			
B. C. 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finished Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.15	@	.16
Tube Rope—			
4-ply and larger	.09¼	@	.09¾
Fine Tube Rope—			
4-ply	.11¼	@	.11¾
3-ply	.14½	@	.14¾
2-ply	.14¾	@	.14¾
Paper Makers Twine	.08¼	@	.13¼
Box Twine, 2-3 ply	.14¼	@	.14¾
White Hemp	.13¼	@	.16¼
Java Sisal—			
No. 1 Basis	.11½	@	—
No. 2 Basis	.10½	@	—
New Zealand Sisal	.11½	@	—
Sisal Lath Yarn—			
No. 1	.13½	@	.15½
No. 2	.11½	@	.13½
Manila Twine	.24½	@	.29½

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.12	@	.50
Water Marked Sulphite Bond	.06¼	@	.15
Sulphite Bond	.05½	@	.15
Superfine Writing	.18	@	.40
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¼	@	.07¼
No. 2 S.&S.C. Book	.05¼	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04½	@	.05½
No. 1 Fibre	.04¼	@	.05¼
No. 2 Manila	.04½	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.05¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.05¼	@	.07
White Tissue	.07	@	.09
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	41.00	@	—
Sheets, open	46.00	@	$51.00
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers
(F. o. b. Chicago)

Shavings			
No. 1 White Envelope cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.70	@	.80
Solid Books	.60	@	.70
Blanks	1.00	@	1.05
Krafts	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.50	@	.55
Overissue News	.60	@	.70
Old Newspapers—			
No. 1	.50	@	.55
Mixed Papers—			
No. 1	.30	@	.35
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.34	@	.40
Ledgers	.36	@	.40
Writings—			
Superfine	.18	@	.18
Extra Fine	.15	@	.26
Fine	.13	@	.24
Fine, No. 2	.10	@	.23
Fine No. 3	.05½	@	.18
Book, M. F.	.04¼	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.10
Manila Sul., No. 1	.03	@	.06
Manila No. 2	.03	@	.05
No. 1 Kraft	.05¼	@	.06½
No. 2 Kraft	.03¼	@	.05
Southern Kraft	2.75	@	4.00
Common Bogus	.03	@	.04½
(Delivered Philadelphia)			
News Print Rolls	46.00	@	$55.00
Straw Board	40.00	@	$45.00
News Board	50.00	@	—
Chip Board	45.00	@	—
Wood Pulp Board	70.00	@	$85.00
Binder Boards—			
No. 1, per ton	75.00	@	$80.00
No. 2, per ton	70.00	@	$75.00
Carload lots	65.00	@	$70.00
Tarred Felts—			
Regular	52.25	@	$54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.30	@	1.40
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01½	@	.02
Blue Overall	.03½	@	.04
Cottons—According to grades—			
Washable, No. 2	.02½	@	.03
New Blue	.01½	@	.03
Fancy	.01½	@	.03
New Black Soft	.02	@	.04
New Light Seconds	.01½	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.04
No. 2 Mixed	.03	@	.04
Corduroy	.02	@	.03
New Canvas	.03½	@	.04½
New Black Mixed	.02½	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.50
Miscellaneous	1.75	@	2.25
M. G.	3.00	@	3.75
Thirds and Blues—			
Miscellaneous	1.00	@	1.50
Repacked	1.50	@	2.00
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.85

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.25	@	2.30
No. 2 Hard White	2.00	@	2.10
No. 1 Soft White	2.05	@	2.10
No. 2 Soft White	1.50	@	1.60
No. 1 Mixed	.95	@	1.00
No. 2 Mixed	.75	@	.80
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.25	@	1.50
No. 1 Books, heavy	.90	@	1.00
No. 2 Books, light	.70	@	.80
No. 1 New Manila	1.20	@	1.50
No. 1 Old Manila	.85	@	.90
Print Manila	.75	@	.80
Container Manila	.65	@	.70
Old Kraft	1.00	@	1.10
Common Paper	.35	@	.40
No. 1 Mixed Paper	.40	@	.45
Straw Board Chip	.40	@	.45
Binders Board Chip	.40	@	.45
Corrugated Board	.60	@	.70
Overissue News	.60	@	.65
Old Newspapers	.40	@	.50

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05½	@	.11
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¼	@	.06½
Manila, Sul. No. 2	.03¼	@	.04½
No. 1 Kraft	.04¼	@	.05
No. 2 Kraft	.03½	@	.04¼
(F. o. b. Boston)			
Southern Kraft	.03¾	@	.04½
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¼
(Delivered New England points)			
News Print, rolls	44.50	@	—
Straw Board, rolls	.009	@	$35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	45.00	@	$50.00
Chip Board	42.50	@	$47.00
Chip Board (Creasing)	45.00	@	—
Single Manila Lined Chip	52.50	@	$62.50
Single White, Patent Coated News Board—Bender	62.50	@	$72.50
Wood Pulp Board	70.00	@	$75.00
Binder Boards	62.00	@	$75.00

Old Papers
(F. o. b Boston)

Shavings—			
No. 1 Hard White	2.40	@	—
No. 1 Soft White	1.75	@	2.00
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.40	@	1.50
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	1.00	@	1.10
No. 1 Books, heavy	.90	@	1.00
No. 1 Books, light	.65	@	.75
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.95	@	1.05
White Blank News	1.20	@	1.30
No. 1 Kraft	1.15	@	1.20
Manila	.75	@	.80
No. 1 Mixed Papers	.20	@	.25
Print Manila	.40	@	.45
Overissue News	.55	@	.60
Old Newspapers	.35	@	.40
Box Board Chips	.32½	@	.35
Corrugated Boxes	.35	@	40
Screening Wrappers	.60	@	.70

Bagging
(F. o. b. Boston)

Manila Rope—			
Foreign	—	@	2.25
Domestic	—	@	2.50
Transmission Rope	1.60	@	—
Mixed Strings	—	@	.60
Jute Rope	1.35	@	—
Jute Carpet Threads	.65	@	.70
Gunny No. 1—			
Foreign	1.50	@	—
Domestic	1.20	@	1.30
Bleachery Burlap	3.00	@	3.25
Scrap Burlap	1.15	@	—
Scrap Sisal	1.25	@	1.35
Scrap Sisal for shredding	1.25	@	1.35
Wool Tares, heavy	—	@	1.25
New Burlap Cuttings	1.35	@	1.60
Australian Wool Pouches	2.25	@	2.50
Heavy Baling Bagging	1.40	@	1.50
Paper Mill Bagging	.90	@	1.10
Bagging No. 2	.40	@	.50

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.02	@	.02¼
New White No. 1	.06½	@	—
New White No. 2	.04½	@	.05
Silesias No. 1	.04	@	—
New Black Silesias	.02¼	@	.03
New Unbleached	.07	@	.07¼
Blue Cheviot	—	@	4.65
Fancy	—	@	.02¼
Washable	.02¼	@	—
Cottons—According to grades—			
Blue Overalls	—	@	.03¼
New Black, soft	.04	@	.04½
Khaki Cuttings	.03	@	.03¼
O. D. Khaki	.03	@	.03¼
Corduroy	.01¾	@	.02
New Canvas	—	@	.05
B.V.D. Cuttings	—	@	.06¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	
White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White No. 2—			
Repacked	2.00	@	2.25
Miscellaneous	2.00	@	2.75
Twos and Blues	1.25	@	1.50
Thirds and Blues			
Repacked	1.10	@	1.25
Miscellaneous	.85	@	.90
Black Stockings	2.25	@	2.50
Roofing Stock			
No. 1	1.20	@	1.25
No. 2	.80	@	—
No. 3	.65	@	.70

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.25	@	1.40
New White Shirt Cuttings	5.50	@	6.00
Dutch Blues	2.00	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.55	@	1.60
Old Linsey Garments	1.40	@	1.50

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08¼	@	—
No. 1 Colored	.10¼	@	—
No. 2 Colored	.09	@	.10
Ledgers (sulphite)			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.20	@	—
No. 3 M. F. (Carloads)	5.70	@	—
No. 4 M. F. (carloads)	4.75	@	—
No. 1 S. C. (carloads)	6.65	@	—
No. 3 S. C. (carloads)	6.20	@	—
No. 4 S. C. (carloads)	5.20	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	14.00	@	—
Wrappings—			
Rag Brown	4.25	@	—
White Wrap	2.22½	@	—
"B" Manila	4.75	@	—
No. 1 Manila	5.25	@	—
Fiber	5.25	@	—
Kraft, M. F	5.75	@	—
Kraft No. 2	5.25	@	—

(F.O.B. Cars Toronto)

News, per ton—			
Rolls (contract)	45.50	@	—
Sheets	50.50	@	—

Pulp
(F. o. b. Mill)

Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	50.00	@	$55.00
Sulphate	50.00	@	—

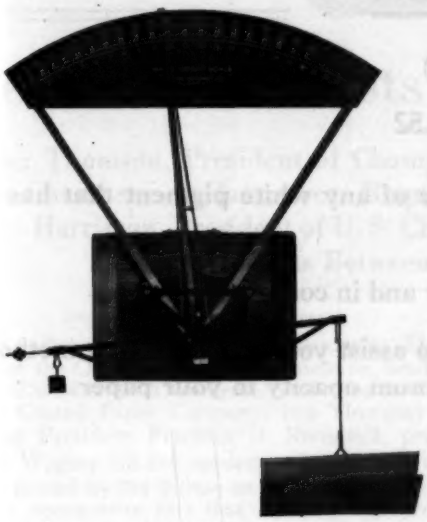
Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.10
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.50
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock	.80	@	.90
Ledgers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.50
Printed Manilas	.70	@	—
Kraft	1.25	@	1.30
News and Scrap—			
Strictly Overissue	1.00	@	—
Strictly Folded	.70	@	—
No. 1 Mixed Paper	.60	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.05¼	@	.05½
Fancy Shirt Cuttings	.02¼	@	.02½

THWING Basis Weight Scale



The value of a basis weight scale is dependent upon its sensitivity and the constancy of its accuracy. The Thwing Basis Weight Scale is so sensitive, that it shows even the slightest variation in weight. This instrument indicates the weight of a ream of paper, simply by weighing a single sheet.

Guaranteed accurate to 1/10 pound per ream

Scales are furnished with various ranges to cover a variety of weights. Also special scales are made for various special weighing purposes; to read feet per bundle, ounces per square foot, pounds per bundle, etc.

The money you invest in a Thwing Basis Weight Scale will quickly be returned to you in the many savings it will make for you.

Write for Bulletin No. 19

858

THWING INSTRUMENT COMPANY

3341 Lancaster Ave. Philadelphia, Pa.

PAPER TRADE JOURNAL

ESTABLISHED 1872

SIXTY-SECOND YEAR

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President. J. BANNINGA, Sec.-Treas.

Executive and Editorial Offices: 15 West 47th Street, New York
Chicago Office: 123 West Madison St.

TABLE OF CONTENTS

Paper Head Protests Against Labor Bill..... 11
Negotiations with Labor Unions Continue..... 12
Newsprint Production..... 12
Safeguarding Rights of Paper Companies..... 12
Badger Paper Mills Profits Increase..... 13
Tomahawk Reorganization Plans..... 13
Paper Demand Satisfactory in Boston..... 14
Spaulding Addresses Paper Merchants..... 14
Chicago Market Shows Slight Improvement..... 15
Work of Paper Foundation..... 15
Paper Association Plans Banquet..... 15
Precautions Against Pulpwood Strikes..... 16
Paper Made in Toronto in 1827..... 16
Philadelphia Paper Industry Expanding..... 17
Association Activities..... 17
Jessup & Moore Reorganization..... 17
Boston Paper Trade Annual Meeting..... 18
Delaware TAPPI Meets..... 19
New England TAPPI Meets..... 20
Obituary..... 22
Couch Rolls for Cylinder Machines..... 24
Couch Rolls for Multi-Cylinder Machines..... 26
Rubber Covering for General Purposes..... 27
Paper Mill Employment..... 28
Code Authority for Waste Paper..... 28
Awards for Government Paper..... 28
Midwest Rag Dealers Meet..... 28
Editorial..... 30
Philemon Paper Co. to Resume..... 31
Specifications Committee to Report..... 31
Technical Section
Analysis of Rosin..... 33
A Study of Wood Pulp Fractionation..... 35
Developments in Paper Testing During 1933..... 39
Heat Utilization in Pulp Cooking by the Sulphite Process..... 40
Pulp and Paper Industry Literature Review..... 41
Imports of Paper and Paper Stock..... 45
New York Market Review..... 47
Miscellaneous Markets..... 48
Market Quotations..... 48

THE PAPER TRADE JOURNAL is indexed in Industrial Arts Index

Want and For Sale Advertisements, 52-53

OPACITY - RAYOX

(Pure TITANIUM Dioxide)

REFRACTIVE INDEX—2.52

The whitest and most opaque of any white pigment that has as yet been discovered.

It is being used both as a filler and in coating.

Our laboratory will be glad to assist you in formulating methods of application to insure maximum opacity in your paper.

"McNAMEE" CLAY

Air washed, Pulverized, or Crude.

We manufacture all grades suitable for both filling and coating.

R. T. VANDERBILT CO.

230 Park Avenue
New York